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1

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Searcher Phone #: 305-9725

Searcher Location: CPK 2-4B33

Date Searcher Picked Up: 7-29

Date Completed: 7-30

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Clerical Prep Time: _____

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S36 276 (CHARGE? ? OR CHARGING)()STATION? ?
S37 147119 (POWER OR ENERGY OR ELECTRICITY OR ELECTRICAL)(2N)SOURCE?
S38 9 S1:S3 AND S14:S15(5N)(S21 OR S35:S37)
S39 8 RD (unique items)
?t39/7/all

39/7/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6670260 INSPEC Abstract Number: C2000-09-3390C-073
Title: Robust navigation and battery re-charging system for long term activity of autonomous mobile robot
Author(s): Hada, Y.; Yuta, S.
Author Affiliation: Intelligent Robot Lab., Tsukuba Univ., Ibaraki, Japan
Conference Title: Proceedings of the Ninth International Conference on Advanced Robotics. 99 ICAR p.297-302
Publisher: Japan Robot Assoc, Tokyo, Japan
Publication Date: 1999 Country of Publication: Japan i+596 pp.
Material Identity Number: XX-1999-02998
Conference Title: Proceedings of 1999 International Conference on Advanced Robotics
Conference Sponsor: Robotics Soc. Japan; Soc. Biomechanisms Japan; Japan Robot Assoc.; Manuf. Sci. & Technol. Center; Micromachine Center
Conference Date: 25-27 Oct. 1999 Conference Location: Tokyo, Japan
Language: English Document Type: Conference Paper (PA)
Treatment: Experimental (X)
Abstract: Our research interest is the long term activity of autonomous mobile **robots**. The purpose of our research is to enhance the autonomy of intelligent **robots**. For this purpose, we developed an autonomous energy supply system. It consists of a **battery** monitor, a **position estimation** system, **navigation** software between any two points and docking system to the base in a real room environment. These are essential functions for the mobile **robot** which can deal with many tasks for a long duration. We implemented them as a system level software which is independent on the task programs. We conducted experiments using the above-mentioned system in a room environment. (4 Refs)
Subfile: C

39/7/2 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

1712619 NTIS Accession Number: DE93000366
Mobile autonomous robot for radiological surveys
Dudar, A. M.; Wagner, D. G.; Teese, G. D.
Westinghouse Savannah River Co., Aiken, SC.
Corp. Source Codes: 094916000; 9525316
Sponsor: Department of Energy, Washington, DC.
Report No.: WSRC-MS-92-305; CONF-921102-22
1992 12p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI9310; ERA9317
Joint American Nuclear Society (ANS)/European Nuclear Society (ENS) international meeting on fifty years of controlled nuclear chain reaction: past, present, and future, Chicago, IL (United States), 15-20 Nov 1992. Sponsored by Department of Energy, Washington, DC.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
Contract No.: AC09-89SR18035
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39/7/3 (Item 2 from file: 6)
DIALOG(R)File 6:NTIS

1659249 NTIS Accession Number: DE92010040
SIMON: A mobile robot for floor contamination surveys
Dudar, E. ; Teese, G. ; Wagner, D.
Westinghouse Savannah River Co., Aiken, SC.
Corp. Source Codes: 094916000; 9525316
Sponsor: Department of Energy, Washington, DC.
Report No.: WSRC-MS-91-189; CONF-9110344-7
1991 11p.
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI9218; ERA9237
Westinghouse computer symposium, Monroeville, PA (United States), 21-22 Oct 1991. Sponsored by Department of Energy, Washington, DC.
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39/7/4 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

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S36          276   (CHARGE? ? OR CHARGING)()STATION? ?
S37       147119   (POWER OR ENERGY OR ELECTRICITY OR ELECTRICAL)(2N)SOURCE?
S38            9   S1:S3 AND S14:S15(5N)(S21 OR S35:S37)
S39            8   RD (unique items)
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Dudar, A. M.; Wagner, D. G.; Teese, G. D.

Westinghouse Savannah River Co., Aiken, SC.

Corp. Source Codes: 094916000; 9525316

Sponsor: Department of Energy, Washington, DC.

Report No.: WSRC-MS-92-305; CONF-921102-22

1992 12p

Languages: English Document Type: Conference proceeding

Journal Announcement: GRAI9310; ERA9317

Joint American Nuclear Society (ANS)/European Nuclear Society (ENS) international meeting on fifty years of controlled nuclear chain reaction: past, present, and future, Chicago, IL (United States), 15-20 Nov 1992. Sponsored by Department of Energy, Washington, DC.

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39/7/4 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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09436958 SUPPLIER NUMBER: 19328989 (THIS IS THE FULL TEXT)

Be afraid.... (future dominance of robots)

Rubenstein, Roy

Electronics Weekly, n1804, p16(2)
March 12, 1997
ISSN: 0013-5224 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 1091 LINE COUNT: 00087

ABSTRACT: University of Reading Cybernetics Professor Kevin Warwick warns that man's distinction of being the most intelligent entity in the planet is being endangered by robots. He points out that machines will eventually equal and then surpass man's intelligence. He points out to his work in the university where his team has built practical robots that can perform multiple tasks and learn from their experiences.

TEXT:

Robots taking over the world? That may sound far-fetched to you, but Professor of Cybernetics at the University of Reading, Kevin Warwick reckons in five years time we will not only be believing we'll be panicking. Roy Rubenstein plugged into his brain...

Is mankind's long rule as the planet's most intelligent entity about to end?

Kevin Warwick, Professor of Cybernetics at the University of Reading, certainly thinks so. He argues that sometime in the next 50 years, machine intelligence will at first match, and then exceed, that of man's.

"I'm afraid I do believe that," said Warwick. He reckons that such a development will be detrimental to mankind: man rules due to a superior intelligence and machines will ultimately do the same.

This credence given to machine intelligence is the result of practical robotic work undertaken at the University's Cybernetics department. The group's approach is to set machines basic tasks from which they can learn. "You need some critique or measure for the machine to known whether it is doing well or badly, so that it can change its behaviour in a positive way."

Using this approach Warwick's team has demonstrated some striking results using several relatively simple robots, dubbed the Seven Dwarfs (see box).

The Dwarfs learn from their environment and talk to each other via infra-red links. Using such capabilities the Dwarfs have already shown collective behaviour which parallels that of animals.

Unlike humans, the abilities of present machines are typically confined to one or two areas. For Warwick an intelligent machine is one that can tackle a range of tasks, and whose abilities can be investigated and tested much in the way humans are.

Warwick cites IBM's RS6000 SP Deep Blue super-computer to highlight the considerable progress being made in machine intelligence. Last year Deep Blue crushed world champion Gary Kasparov in a game of chess, even if it ultimately lost the match 4-2. What impresses him is the sheer processing power employed by Deep Blue to determine its moves. "The machine was being very competitive at what humans regard as requiring intelligence," said Warwick. "Only ten years ago humans were far better than machines at chess."

One example of the increasing influence of machines is the real-time systems used by finance houses for a range of stock exchange activities. "They act out activities based on their own experiences, and are allowed to," observes Warwick. "The systems do have an effect on the outside world."

Warwick agrees with the view of BT's head of research, Professor Peter Cochrane, that humans must partner with machines to progress (Electronics Weekly, March 5, pp12-13). However, he dismisses as simplistic Cochrane's view that laws of artificial intelligence can be written into systems to ensure they do not harm humans. "Its a nice idea but it's not practicable: cruise missiles are designed to break such rules."

He is equally dismissive of the claim that if machines become

troublesome, they can be switched off. "If we decide between us to switch off the Internet tomorrow, could we get the world to agree?"

In spite of his concern Warwick is passionately committed to the science of machine learning. "Its an exciting field with an awful lot still to be learnt. All I'm doing is reporting what is happening; there are plenty of people who aren't."

Warwick argues for an international group to be set-up to look at the issue of where intelligence is being added to machines. The group would comprise politicians, industrialists and academics. However, he is unsure of the likely effective of such a venture.

So if this discussion were repeated in five year's time, would it be the same? "No," said Warwick firmly, "I believe we will be panicking a bit more".

RELATED ARTICLE: Warwick on the Seven Dwarfs

Warwick and his team at the University of Reading believe strongly in the practical application of machine intelligence. "You need to be able to do something that interacts with the real world."

To this aim they have developed motorised robots, dubbed the Seven Dwarfs. Initially the Dwarfs were pre-programmed to avoid objects using their ultrasonic sensors. Adding an artificial neural network comprising some 40 neurons has enabled the Dwarfs to learn such behaviour by trial and error as they traipse around. They can even locate charging stations once their batteries are low.

Infra-red sensors have subsequently been added to enable the robots to communicate with one another. This has allowed group behaviour to be investigated. By rewarding collaborative traits, the Dwarfs have shown behaviour mimicking that of animals.

A Dwarf will declare itself leader which the rest follow, or collectively they can behave as a flock. "Watching them, your response is "Blimey! Its just like puppies'," said Warwick. "It also forces you to look again at puppy behaviour: when it follows you, is it really being that intelligent?"

For Warwick there are enormous possibilities for the Dwarfs to exploit their communications links: "They could develop their own language."

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RELATED ARTICLE: Warwick on machine learning techniques

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However, for Warwick the key learning technique is artificial neural networks (ANNs): "They offer a powerful way of modelling non-linear problems."

An artificial neuron may be far simpler than a human's biological one but once lots are put together 'you get strange, nice things happening; you start to get learning and intelligence," said Warwick.

With technology pushing the number of artificial neurons that can be put in a given space, the focus now is on issues of neuron connectivity and how learning can be 'tuned in'.

"ANNs have enormous potential, we've only just scratched the surface," said Warwick.

SPECIAL FEATURES: illustration; photograph
INDUSTRY CODES/NAMES: INTL Business, International; ELEC . Electronics; BUSN Any type of business
DESCRIPTORS: Robots--Analysis; Cybernetics--Analysis
FILE SEGMENT: TI File 148
?

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BUSN Any type of business
DESCRIPTORS: Robots--Analysis; Cybernetics--Analysis
FILE SEGMENT: TI File 148
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              OR PETROBOT? OR ANIMALROBOT? OR ROBOTANIMAL? OR AIBO OR ROBOT-
              DOG? OR DOGROBOT?
S2       113726   TELEOPERATOR? OR TELEOPERATER? OR TELE()(OPERATOR? OR OPER-
              ATER?) OR MECHATRONIC? OR SERVOMECHANISM? OR SERVO()MECHANISM?
              OR AUTOMATA OR AUTOMATON?
S3           32   AUTOMATED(1W)MECHANICAL()(DEVICE? OR MANIPULAT? OR APP?? OR
              APPARATUS? OR INSTRUMENT????? ? OR EQUIPMENT? OR INVENTION? -
              OR UNIT? ? OR ASSEMBL? OR APPLIANCE? OR SYSTEM? ?)
S4    12337697   PICKUP OR PICK???()UP OR RECOGNI? OR DETECT? OR FIND? OR F-
              OUND OR READ??? OR DISCRIMINAT? OR IDENTIF? OR SENS??? OR SCAN
              OR SCANS OR SCANNED OR SCANNING
S5      829533   (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(IM-
              AGE? OR INFORMATION OR DATA OR PRINT OR PRINTED OR 3D OR DIME-
              NSION? OR COLOR? OR COLOUR? OR PATTERN?)
S6      307694   (S4 OR RECEIV? OR REPOND? OR RESPONSE? OR RECEPT?)(2N)(BAR-
              COD? OR BAR()(CODE? ? OR CODING) OR SIGNAL??? OR UPC OR UPCS -
              OR SKU OR SKUS OR 2D OR STEREOSCOP?)
S7       13121   (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(ST-
              EREOGRA? OR HOLOGRA? OR CUBIC OR VOLUMETRIC OR MULTIDIMENSION-
              ?)
S8        1337   (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(UN-
              IVERSAL()PRODUCT OR IDENTIF? OR ID)()(CODE? ? OR CODING)
S9     4274611   TRANSMIT? OR TRANSMIS? OR SEND? OR SENT OR RECEIV? OR EMIT?
              OR EMIS? OR EMANAT?
S10     304222   S9(2N)(LIGHT OR PHOTIC? OR INFRARED? OR RADIA????? OR SOUN-
              D? ? OR SOUNDWAVE? OR AUDIO OR AUDIOWAVE? OR RADIOWAVE? OR MA-
              GNETICWAVE? OR MAGNETIC)
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S11 21017 S10(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENSITIV? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL?-??? OR WAVE? ? OR SONIC? ?)
S12 8590430 RANGE? OR BEAR??? OR DISTAN? OR DIRECTION? OR LOCAT? OR SITUAT?? OR PLACEMENT? OR EMPLAC? OR POSITION? ? OR VECTOR? OR -PLACED OR PATH OR COURSE
S13 2140890 NAVIGAT? OR HEADING OR ORIENTATION OR ROUTE? OR ROUTING OR WAY
S14 879123 S12-S13(3N)(CALCULAT? OR MEASUR? OR COMPUT? OR GAUG? OR ASSESS? OR ANALYS? OR ANALYT? OR ANALYZ? OR DETERMIN? OR DET? ? OR QUANTIF? OR DERIV?)
S15 231685 S12:S13(3N)(MENSUR? OR EVALUAT? OR FIGUR??? OR TABULAT? OR CALIBRAT? OR ESTIMAT? OR APPROXIMAT?)
S16 30950 S1:S3 AND S5:S8
S17 27488 S1:S3 AND S14:S15
S18 390369 S9(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENS? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL???? -OR WAVE? ? OR SONIC? ?)
S19 2300 S1:S3 AND (S10 OR S18)
S20 8855615 REGENERAT? OR REENERGI? OR RECHARG? OR BATTERY? OR BATTERIES OR CHARGE? ? OR CHARGING OR POWER OR ENERGY OR ELECTRICITY OR ELECTRICAL
S21 71716 (FUEL OR ELECTROCHEMICAL)()CELL? ?
S22 5319 (S16:S17 OR S19) AND S20:S21
S23 106831 S20:S21(3N)(SEARCH? OR LOCAT? OR FIND? OR FOUND OR SEEK? OR LOOK?)
S24 68 S22 AND S23
S25 54 RD (unique items)
S26 8 S25/2000:2002
S27 46 S25 NOT S26
?t27/7/all

27/7/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6537001 INSPEC Abstract Number: B2000-04-1265A-119, C2000-04-5210B-068
Title: Design and synthesis of low power weighted random pattern generator considering peak power reduction
Author(s): Zhang, X.; Roy, K.
Author Affiliation: Electr. & Comput. Eng., Purdue Univ., West Lafayette, IN, USA
Conference Title: Proceedings 1999 IEEE International Symposium on Defect and Fault Tolerance in VLSI Systems (EFT'99) p.148-56
Publisher: IEEE Comput. Soc, Los Alamitos, CA, USA
Publication Date: 1999 Country of Publication: USA xiii+405 pp.
ISBN: 0 7695 0325 X Material Identity Number: XX-1999-03126
U.S. Copyright Clearance Center Code: 0 7695 0325 X/99/$10.00
Conference Title: 1999 Proceedings IEEE International Symposium on Defect and Fault Tolerance in VLSI Systems
Conference Sponsor: IEEE Comput. Soc.; IEEE Comput. Soc. Tech. Committee on Fault-Tolerant Comput.; IEEE Comput. Soc. Test Technol. Tech. Committee
Conference Date: 1-3 Nov. 1999 Conference Location: Albuquerque, NM, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P); Theoretical (T); Experimental (X)
Abstract: In order to meet the **power** and reliability constraints, it is important to reduce average **power** and peak **power** during test. In this paper we propose a Low **Power** Automatic Test Pattern Generator (LPATPG), which can be used during online testing of large circuits requiring low **power** dissipation. The LPATPG can be implemented by linear cellular **automata** (CA) with appropriate external weighting logic. While the average **power** is reduced by **finding** the optimal **signal** activities (probabilities of signal switching) at the primary inputs, the peak **power** is reduced by **finding** the best initial conditions in the CA cells. Results on ISCAS benchmark circuits show that average **power** reduction of up to 79.7%, peak **power** reduction of up to 39.2% and **energy** reduction of up to 84.4% can be achieved (compared to linear cellular **automata**)

while achieving high fault coverage. (11 Refs)
Subfile: B C
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27/7/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2002 Institution of Electrical Engineers. All rts. reserv.

5796930 INSPEC Abstract Number: B9802-8130F-012
Title: Robotic **arm aids energize reconductor project**
Author(s): Slaven, D.; Devine, C.; Powell, S.; Danford, P.E.
Author Affiliation: UtillCorp United, Kansas City, MO, USA
Journal: Transmission & Distribution World vol.49, no.12 p.34-6, 38, 40
Publisher: Intertec Publishing,
Publication Date: Nov. 1997 Country of Publication: USA
CODEN: TDWOFF ISSN: 0041-1280
SICI: 0041-1280(199711)49:12L.34:RAER;1-S
Material Identity Number: E340-97016
U.S. Copyright Clearance Center Code: 0041-1280/97/$2.25+00.00
Language: English Document Type: Journal Paper (JP)
Treatment: General, Review (G)
Abstract: UtiliCorp's WestPlains **Energy** (USA) operating unit **found** itself faced with rapidly declining service from a **radial** 69 kV **transmission** line in a rugged region of Colorado's Rocky Mountains. The line's copper conductor had reached the end of its reliable life-it often broke under ice or high wind loads. UtiliCorp's engineers also determined faulty insulators, poor grounding and, in some places, inadequate clearances for conductor blowout were causing an unacceptable level of momentary outages. This paper describes how the 69 kV transmission line was reconductored and rebuilt on the same center line without taking a single outage. (0 Refs)
Subfile: B
Copyright 1998, IEE

27/7/3 (Item 3 from file: 2)
DIALOG(R)File 2:INSPEC
(c) 2002 Institution of Electrical Engineers. All rts. reserv.

5200847 INSPEC Abstract Number: C9604-7420-049
Title: Automatic collision-free path planning for robots **in complex environment**
Author(s): Ochoa, C.; Barrientos, K.; Balaguer, C.; Aracil, R.
Author Affiliation: Univ. Simon Bolivar, Caracas, Venezuela
Conference Title: 11th ISPE/IEE/IFAC International Conference on CAD/CAM, Robotics and Factories of the Future CARS and FOF`95 Part vol.2 p. 1103-8 vol.2
Editor(s): Bera, H.
Publisher: Univ. Tecnologica de Pereira, Pereira, Colombia
Publication Date: 1995 Country of Publication: Colombia 2 vol. xiv+1147 pp.
Material Identity Number: XX96-00438
Conference Title: Proceedings of Meeting on CAD/CAM Robotics and Factories of the Future
Conference Sponsor: Int. Soc. Productivity Enhancement; IEE; IFAC; South Bank Univ
Conference Date: 28-30 Aug. 1995 Conference Location: Pereira, Colombia
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: The work proposes a new method for collision free path planning for redundant and non redundant **robots** . This method is based on a deterministic search within the space of the task through a vector, the direction of which in any point is determined by a set of non heuristic conditions. The method plans the path directly in tridimensional space with local and global **search** , which gives it **power** to solve complex problems

in an efficient manner. The path is contained in a plan and this is previously selected in such a way that the path can be directed through a give zone. Due to the characteristics of the algorithm, there may be carried out implementations for **robots** with 6 or more degrees of free, that allow applications in real time. The obstacles in the environment are modeled by means of convex prisms. The method developed further allows us to consider the articulate limits of the **robot** , avoid singularities and plan paths in which the **robot** manipulates pieces of large dimensions. The method has been applied in the simulation of one redundant **robot** with 7 DOF find collision free **path** within reduced **calculations** times. The quality of the results obtained allowed us to consider the method as one of the alternatives to be used in the ESPRIT 6450 ROCCO " **Robot** Assembly System for Computer Integrated Construction" European Project. (10 Refs)
Subfile: C

27/7/4 (Item 4 from file: 2)
DIALOG(R)File 2:INSPEC

5075490 INSPEC Abstract Number: B9511-2560X-009
Title: Effect of stray charge **on quantum cellular** automata
Author(s): Tougaw, D.; Lent, C.S.
Author Affiliation: Dept. of Electr. Eng., Notre Dame Univ., IN, USA
Journal: Japanese Journal of Applied Physics, Part 1 (Regular Papers & Short Notes) vol.34, no.8B p.4373-5
Publication Date: Aug. 1995 Country of Publication: Japan
CODEN: JAPNDE ISSN: 0021-4922
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: We study the operation of quantum cellular **automata** (QCA) devices in the presence of stray **charge** . Operation of linear arrays of QCA cells, called binary wires, relies on Coulombic interaction between the cells, which is affected by the presence of such stray **charge** . The **position** of the **charge determines** whether or not the devices function properly, and it is possible to determine the "forbidden" region near the array in which the presence of stray **charge** causes device failure. We calculate this forbidden region by directly diagonalizing the Hamiltonian for the system including the stray **charge** . We **find** that the QCA binary wire is unaffected by stray **charge** at a distance greater than the intercellular repeat distance of the wire. (6 Refs)
Subfile: B

27/7/5 (Item 5 from file: 2)
DIALOG(R)File 2:INSPEC

5043367 INSPEC Abstract Number: C9510-1230-066
Title: Finding **the** 3D **shortest path with visibility graph and minimum potential** energy
Author(s): Jiang, K.; Seneviratne, L.S.; Earles, S.W.E.
Author Affiliation: Dept. of Mech. Eng., King's Coll. London, UK
Conference Title: IROS '93. Proceedings of the 1993 IEEE/RSJ International Conference on Intelligent Robots and Systems. Intelligent Robots for Flexibility (Cat. No.93CH3213-6) p.679-84 vol.1
Publisher: IEEE, New York, NY, USA
Publication Date: 1993 Country of Publication: USA 3 vol. 2317 pp.
ISBN: 0 7803 0823 9
U.S. Copyright Clearance Center Code: 0 7803 0823 9/93/$3.00
Conference Title: Proceedings of 1993 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS '93)
Conference Sponsor: IEEE Ind. Electron. Soc.; IEEE Robotics & Autom. Soc. ; Robotics Soc. Japan; Soc. Instrum. & Control Eng.; New Technol. Found.; Japan Soc. Mech. Eng.; Inst. Syst., Control & Inf. Eng.; Inst. Electr. Eng. Japan; Inst. Electron., Inf. & Commun. Eng.; Japanese Soc. Artificial

Intelligence; Japanese Neural Network Soc.; Japan Soc. Fuzzy Theory & Syst.
; Japan Soc. Precision Eng.; Japan Ind. Robot Assoc.; Amada Found. Metal
Work Technol.; Toshiba Corp
Conference Date: 26-30 July 1993 Conference Location: Yokohama, Japan
Language: English Document Type: Conference Paper (PA)
Treatment: Theoretical (T)
Abstract: **Finding** a three **dimensional** shortest path is of importance in the development of automatic path planning for mobile **robots** and **robot** manipulators, and for practical implementation, the algorithms need to be efficient. Presented is a method for shortest path planning in three-dimensional space in the presence of convex polyhedra. It is based on the visibility graph approach, extended from two to three-dimensional space. A collineation is introduced for the identification of visible edges in the three-dimensional visibility graph. The principle of minimum potential **energy** is adopted for **finding** a set of sub-shortest paths via different edge sequences, and from them the global shortest path is selected. The three dimensional visibility graph is constructed in O(n/sup 3/v/sup k/) time, where n is the number of vertices of the polyhedra, k is the number of obstacles and v is the largest number of vertices on any one obstacle. The process to **determine** the shortest **path** runs recursively in polynomial time. Results of a computer simulation are given, showing the versatility and efficiency of the approach. (16 Refs)
Subfile: C

27/7/6 (Item 6 from file: 2)
DIALOG(R)File 2:INSPEC

4992416 INSPEC Abstract Number: B9508-7230G-027, C9508-5260B-240
Title: R7: a snake-like robot **for 3-d visual inspection**
Author(s): Lewis, M.A.; Zehnpfennig, D.M.
Author Affiliation: Inst. for Robotics & Intelligent Syst., Univ. of Southern California, Los Angeles, CA, USA
Conference Title: IROS '94. Proceedings of the IEEE/RSJ/GI International Conference on Intelligent Robots and Systems. Advanced Robotic Systems and the Real World (Cat. No.94CH3447-0) Part vol.2 p.1310-17 vol.2
Publisher: IEEE, New York, NY, USA
Publication Date: 1994 Country of Publication: USA 3 vol. xxv+2191 pp.
ISBN: 0 7803 1933 8
Conference Title: Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS'94)
Conference Sponsor: Gesellschaft fur Inf.; Ind. Eletron. Soc. IEEE; New Technol. Found.; Robotics & Automation Soc. IEEE; Robotics Soc. Japan; Soc. Instrum. & Control Eng.; Univ. Bundeswehr Munchen; Inst. Tech. Intelligenter Syst.; VDE/VDI Gesellschaft fur Mikroelektron.; VDI/VDE Gesellschaft fur Mess-und Automatisierungstech
Conference Date: 12-16 Sept. 1994 Conference Location: Munich, Germany
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P)
Abstract: This article describes the design of an 8 degree of freedom snake-like **robot** , the R7 manipulator. The purpose of the device is to position a CCD camera and to rapidly acquire a sequence of images in an environment containing obstacles that may constrain the motion of the **robot** . Because of these requirements, it was desirable to minimize the manipulator's size and maximize its speed while preserving accuracy. These goals led to a unique design that is presented here. The device consists of four transmission modules. Each module has 2 degrees of freedom and contains a dual differential drive mechanism. Each module is a little more than 1.0" in diameter. The coordinated motion of these differential drives produces a prehensile motion of each transmission module. The range of motion of each module is +or-90 degrees in yaw and pitch. The smooth prehensile bending easily accommodate fragile cables and wiring harnesses. A benefit of using rigid links, as in this design, is an increase in stiffness of the mechanism. High stiffness aids in rapid positioning. One key feature of the mechanism is the use of low tension cable drive. Cables

pass over a series of stationary sheaves and transmit **power** to transmission units **located** in each module. The use of a gear reducing transmission allows the use of low tension cables. This paper describes the design of the R7 manipulator and supporting electronics. Also discussed is the numerical solution to the inverse kinematics for this novel manipulator. The **robot** was built at Hughes Aircraft. (14 Refs)
Subfile: B C

27/7/7 (Item 7 from file: 2)

4910046 INSPEC Abstract Number: C9505-5260B-092
Title: Active and intelligent sensing of road obstacles: Application to the European Eureka-PROMETHEUS project
Author(s): Xie, M.; Trassoudaine, L.; Alizon, J.; Thonnat, M.; Gallice, J.
Author Affiliation: INRIA Sophia-Antipolis, France
p.616-23
Publisher: IEEE Computer Society Press, Los Alamitos, CA, USA
Publication Date: April 1993 Country of Publication: USA xiv+742 pp.
ISBN: 0 8186 3870 2
U.S. Copyright Clearance Center Code: 0-8186-3870-2/93/$3.00
Conference Title: 1993 (4th) International Conference on Computer Vision
Conference Sponsor: IEEE; Gesellschaft fu@aur Informatik; Fraunhofer-Gesellschaft zur Fo@aurderung der angewandten Forschung e.V.; European Vision Soc
Conference Date: 11-14 May 1993 Conference Location: Berlin, Germany
Language: English Document Type: Conference Paper (PA)
Treatment: Applications (A); Practical (P)
Abstract: The authors address the problem of road obstacle detection. A sensor composed of an eyesafe laser range **finder** coupled with a **charge** coupled device (CCD) camera is proposed. This sensor is mounted in front of a vehicle. The basic idea is to first determine 2-D visual targets in intensity images of the camera. The range finder is then used not only to confirm or reject the real existence of the detected visual targets but also to acquire 3-D information of the confirmed visual targets. The central problem of this strategy is the method of detection of 2-D visual targets from intensity images of a road scene. In the method, line segments are considered as significant features. The concept of a line segment of interest and the concept of a dominant line segment are used. Two-imensional visual targets can be effectively determined with the help of the identification of the dominant line segments in an **image** . The range **finder** was used to confirm or reject a 2-D visual target. (11 Refs)
Subfile: C

27/7/8 (Item 8 from file: 2)

4865043 INSPEC Abstract Number: C9503-4240C-012
Title: Beyond competitive analysis (on-line algorithms)
Author(s): Koutsoupias, E.; Papadimitriou, C.H.
Author Affiliation: California Univ., Los Angeles, CA, USA
p.394-400
Editor(s): Goldwasser, S.
Publisher: IEEE Comput. Soc. Press, Los Alamitos, CA, USA
Publication Date: 1994 Country of Publication: USA xiii+837 pp.
ISBN: 0 8186 6580 7
U.S. Copyright Clearance Center Code: 0272-5428/94/$04.00
Conference Title: Proceedings 35th Annual Symposium on Foundations of Computer Science
Conference Sponsor: IEEE Comput. Soc. Tech. Committee on Math. Found.

Comput
Conference Date: 20-22 Nov. 1994 Conference Location: Santa Fe, NM, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Practical (P); Theoretical (T)
Abstract: The competitive analysis of on-line algorithms has been criticized as being too crude and unrealistic. We propose two refinements of competitive **analysis** an two **directions** : The first restricts the **power** of the adversary by allowing only certain input distributions, while the other allows for comparisons between information regimes for on-line decision-making. We illustrate the first with an application to the paging problem; as a by product we characterize completely the work functions of this important special case of the k-server problem. We use the second refinement to explore the **power** of **lookahead** in server systems, and the **power** of visual sensors in **robot** navigation. (16 Refs)
Subfile: C
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27/7/9 (Item 9 from file: 2)
DIALOG(R)File 2:INSPEC
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4782190 INSPEC Abstract Number: C9411-3360B-016
Title: Road obstacle detection and tracking by an active and intelligent sensing strategy
Author(s): Xie, M.; Trassoudaine, L.; Alizon, J.; Gallice, J.
Author Affiliation: Center for Graphics & Imaging Technol., Nanyang Technol. Univ., Singapore
Journal: Machine Vision and Applications vol.7, no.3 p.165-77
Publication Date: 1994 Country of Publication: USA
CODEN: MVAPEO ISSN: 0932-8092
U.S. Copyright Clearance Center Code: 0932-8092/94/$2.00+0.20
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: In this paper, we address the problem of road obstacle detection. We propose a method based on an active and intelligent sensing strategy. A sensor composed of a range **finder** coupled with a (**charge** -coupled-device) CCD camera is used. This sensor is mounted in front of a vehicle. The basic idea is first to determine 2D visual targets in intensity images of the camera. Then the range finder will be used not only to confirm or reject the existence of the detected visual targets, but also to acquire 3D information of the confirmed visual targets. The central problem of this strategy is how to **detect 2D** visual targets from intensity images of a road scene. In our method, we consider line segments as significant features. We use the concept of line segment of interest and the concept of dominant line segment. With the help of the identified dominant line segments in an image, we can effectively ascertain 2D visual targets. Finally, we use the range finder to confirm or reject a 2D visual target. A confirmed visual target is temporally tracked with the help of the range finder. (27 Refs)
Subfile: C

27/7/10 (Item 10 from file: 2)
DIALOG(R)File 2:INSPEC
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4559263 INSPEC Abstract Number: B9402-1280-003, C9402-5320C-001
Title: Bipolar, CMOS, and BiCMOS process technology implications for IC partitioning of mixed signal hard disk drive data path and servo/spindle control functions
Author(s): Moore, S.
Author Affiliation: GEC Plessey Semicond., Scotts Valley, CA, USA
Conference Title: Analog and Mixed-Signal Design Conference Proceedings p.114/1-18
Publisher: Miller Freeman Publications, San Francisco, CA, USA

Publication Date: 1992 Country of Publication: USA 763 pp.
Conference Sponsor: Miller Freeman; Comput. Design Magazines
Conference Date: 28-30 Oct. 1992 Conference Location: Burlingame, CA, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Applications (A); Practical (P)
Abstract: Hard disk drive (HDD) data path signal recovery and servo/spindle control require analog and mixed signal IC process technologies to meet the board space and performance requirements. As drives get smaller, and storage capacity requirements get higher, mixed-signal ICs for these drives become more complex and require increased performance. These increases in complexity and performance create a host of issues that are solved in today's designs by the proper segmentation of bipolar, CMOS, and BiCMOS. These issues include total chip count, IC footprint total area, **power** dissipation, maximum **read** /write **data** rate, data converter resolution and conversion speed, and supplying sufficient **power** for fast **seek** and spindle initiation. This paper analyzes how these issues impact the various approaches to the partitioning of the mixed-signal ICs in today's and the next generation HDD. (0 Refs)
Subfile: B C

27/7/11 (Item 11 from file: 2)
DIALOG(R)File 2:INSPEC
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03685480 INSPEC Abstract Number: C90051067
Title: Differential A*: an adaptive search method illustrated with robot **path planning for moving obstacles and goals, and an uncertain environment**
Author(s): Trovato, K.I.
Author Affiliation: North American Philips Corp., Briarcliff Manor, NY, USA
Conference Title: IEEE International Workshop on Tools for Artificial Intelligence. Architectures, Languages and Algorithms p.624-39
Publisher: IEEE Comput. Soc. Press, Los Alamitos, CA, USA
Publication Date: 1989 Country of Publication: USA xiii+724 pp.
ISBN: 0 8186 1984 8
U.S. Copyright Clearance Center Code: 1984/89/0000-0624$01.00
Conference Sponsor: IEEE; George Mason Univ.; Univ. California, Berkeley
Conference Date: 23-25 Oct. 1989 Conference Location: Fairfax, VA, USA
Language: English Document Type: Conference Paper (PA)
Treatment: Applications (A); Theoretical (T); Experimental (X)
Abstract: Differential A* is presented. It is a method that builds on the A*/configuration-space approach to adapt quickly to changes in the space by determining and updating the localized regions affected by those changes rather than **regenerating** the entire space. This is particularly effective with moving obstacles or goals and in an uncertain environment because only small parts of the space are affected at a time. This technique can provide significant speed improvements over, with the same desired results, as complete space **regeneration** . The A* **search** algorithm and its relationship to the configuration space method of path planning are presented. The connection of A* to wave propagation in configuration space for path planning is described. The differential A* method is outlined, with the focus on path planning. Examples of moving obstacles and goals and planning in an uncertain environment are presented. (10 Refs)
Subfile: C

27/7/12 (Item 12 from file: 2)
DIALOG(R)File 2:INSPEC
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03444080 INSPEC Abstract Number: C89054431
Title: Minimum energy **paths for optimal oscillatory movements of a PUMA arm**
Author(s): Olgac, N.; Shiping Zhou
Author Affiliation: Dept. of Connecticut, Univ., Mech. Eng., Storrs, CT, USA

Journal: Journal of Robotic Systems vol.5, no.4 p.389-408
Publication Date: Aug. 1988 Country of Publication: USA
CODEN: JRSYDB ISSN: 0741-2223
.U.S. Copyright Clearance Center Code: 0741-2223/88/040389-20$4.00
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P)
Abstract: An optimal **energy** consumption problem for small amplitude oscillatory motions of **robot** manipulators is posed. A general objective function in joint space is given for the **energy** needs in the drives. Specific applications for a commercially available manipulator, Unimation-PUMA 560, are carried out, by separating the manipulator motions into two parallel segments, arm and wrist. Numerical solutions exist for this class of problems but their iterations consume a very long computation time. To avoid these cumbersome evaluations, a geometric study for PUMA 560 is presented, shortening the enumerations substantially. For any given point in the workspace, optimal directions of oscillations and their corresponding **energy** levels are **found** . This **information** is translated into a map of minimum **energy** levels across the workspace. The map is planned to comprise a section of an intelligent control mechanism of larger scope. (6 Refs)
Subfile: C

27/7/13 (Item 13 from file: 2)
DIALOG(R)File 2:INSPEC
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03230139 INSPEC Abstract Number: A88115884, B88068281, C88059389
Title: Neural networks and cellular automata **in experimental high energy physics**
Author(s): Denby, B.
Author Affiliation: Lab. de l'Accel. Lineaire, Orsay, France
Journal: Computer Physics Communications vol.49, no.3 p.429-48
Publication Date: June 1988 Country of Publication: Netherlands
CODEN: CPHCBZ ISSN: 0010-4655
U.S. Copyright Clearance Center Code: 0010-4655/88/$03.50
Language: English Document Type: Journal Paper (JP)
Treatment: Theoretical (T)
Abstract: Two novel computing techniques, cellular **automata** and neural networks, have shown considerable promise in the solution of problems of a very high degree of complexity, such as turbulent fluid flow, image processing, and **pattern recognition** . Many of the problems faced in experimental high **energy** physics are also of this nature. Track reconstruction in wire chambers and cluster finding in cellular calorimeters, for instance, involve **pattern recognition** and high combinatorial complexity since many combinations of hits or cells must be considered in order to arrive at the final tracks or clusters. The author examines in what way connective network methods can be applied to some of the problems of experimental high **energy** physics. It is **found** that such problems as track and cluster finding adapt naturally to these approaches. When large scale hard-wired connective networks become available, it will be possible to realize solutions to such problems in a fraction of the time required by traditional methods. For certain types of problems, faster solutions are already possible using model networks implemented on vector or other massively parallel machines. It should also be possible, using existing technology, to build simplified networks that allow detailed reconstructed event information to be used in fast trigger decisions. (32 Refs)
Subfile: A B C

27/7/14 (Item 14 from file: 2)
DIALOG(R)File 2:INSPEC
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01332781 INSPEC Abstract Number: C79011394
Title: Practical methods of automatic recognition of object positions by robots

Author(s): Wojcik, Z.M.
Author Affiliation: Inst. Konstrukcji Przyrzadow Precyzyjnych i Optycznych, Politech. Warszawskiej, Warsaw, Poland
Journal: Elektronika vol.19, no.12 p.513-15
Publication Date: 1978 Country of Publication: Poland
CODEN: EKNTBZ ISSN: 0033-2089
Language: Polish Document Type: Journal Paper (JP)
Treatment: Theoretical (T); Experimental (X)
Abstract: Presents the following methods of automatic recognition of object positions: based on criterion of image alignment; by measurement of centroid co-ordinates of centering signs on raster; by weighting of object image; by measurements of intersection moments of scanning ray with object image boundary; by **searching** of light **energy** extreme coming from object image. (3 Refs)
Subfile: B C

27/7/15 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS
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1890468 NTIS Accession Number: AD-A290 242/7
Robot **Assisted Material Handling for Shirt Collar Manufacturing-Turning and Pressing-Volume 5: Three-Dimensional Machine Vision**
(Final rept)
Paul, F. W. ; Cultice, D. R.
Clemson Apparel Research Facility, Pendleton, SC.
Corp. Source Codes: 103702000; 424659
Jun 92 168p
Languages: English Document Type: Thesis
Journal Announcement: GRAI9519
ADA290241 ADA290243 ADA290244 ADA290245 ADA290246.
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NTIS Prices: PC A08/MF A02
Country of Publication: United States
Contract No.: DLA900-87-D-0017
Apparel manufacturers are interested in applying advanced automation techniques to gain increased productivity for exiisting labor-intensive garment assembly processes. The objective of this thesis is to investigate the usefulness of three- **dimensional** vision **sensing** for fabric material manipulation. A three-dimensional (3-D) range **finder** composed of a **charge** coupled device (CCD) camera and a facility for projecting laser stripes has been developed and implemented in a **robotic** workstation dedicated for turning and pressing shirt collars. Through image processing and triangulation, the range **finder** develops position **information** which is used by the **robot** to properly position the collar on a pressing surface. The scanning and modeling of a collar takes between 16 and 18 seconds, and the complete sensing and positioning procedure requires 20 seconds with **robot** velocities of 20 ips. The range finder is capable of locating a 3-D point in space to within a +2 mm precision in the depth direction, and to within ji mm in the orthonormal directions. Collars are positioned on the pressing work surface with a precision of 14 mm which is within tolerance for a successful collar placement. This application of 3-D vision sensing for flexible fabric manipulation demonstrates the promising potential of 3-D vision sensing for apparel manufacturing.

27/7/16 (Item 2 from file: 6)
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1753114 NTIS Accession Number: DE93013772
Non-scanned LADAR imaging and applications
Anthes, J. P. ; Garcia, P. ; Dressendorfer, P. V.
Sandia National Labs., Albuquerque, NM.

Corp. Source Codes: 068123000; 9511100
Sponsor: Department of Energy, Washington, DC.
Report No.: SAND-92-2210C; CONF-930445-14
1992 12p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI9322; ERA9345
Society of Photo-Optical Instrumentation Engineers (SPIE) OE/aerospace science and sensing meeting, Orlando, FL (United States), 11-16 Apr 1993. Sponsored by Department of Energy, Washington, DC.
U.S. Sales Only. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
Contract No.: AC04-76DP00789
A scannerless LAser Detection And Ranging (LADAR) system is presently in development for applications at Sandia National Laboratories. This LADAR design eliminates the need for a mechanical laser beam scanner which is often the system component that limits the use of laser radars for many applications. Range to the target scene is determined in this approach by measuring the phase shift of the intensity modulation on the received optical return compared to the reference. The approach used in this LADAR is unique because the method used to detect this phase shift is an array of time integrating detectors that also records the image of the target scene. An analytical model will be presented that describes the LADAR system performance. Applications of this LADAR system will also be reviewed. They include terminal guidance of advanced conventional munitions, perimeter surveillance of secure facilities, mapping potholes/cracks in the US highway system for improved maintenance scheduling, active collision avoidance of commercial/private vehicles, **robotic** vision integrated into advanced manufacturing concepts, and a novel airborne multi-sensor system containing LADAR, SAR, and LIDAR to **locate** and **measure** the thickness of ocean oil spills.

27/7/17 (Item 3 from file: 6)
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1664311 NTIS Accession Number: PB92-194430
Mobile Robot **for Inspection of** Power **Transmission Lines**
Sawada, J. ; Zaima, E. ; Maikawa, Y. ; Ishikawa, Y.
Toshiba Corp., Tokyo (Japan).
Corp. Source Codes: 021559000
c1991 5p
Languages: Japanese
Journal Announcement: GRAI9219
Text in Japanese.
Included in Toshiba Review, v46 n7 p538-541 1991.
NTIS Prices: (Order as PB92-194422, PC E07/MF E07)
Country of Publication: Japan
The paper describes a mobile **robot** which can travel on an optical-fiber overhead ground wire (OPGW) without any assistance. The ultimate purpose of the **robot** is the automatic inspection of OPGWs. The **robot** navigates a ground wire which is **located** above the actual **power** lines, and can maneuver over obstacles such as weights installed on the ground wire to stop it from swinging. It can also pass around a tower by using an arc-shaped arm which acts as a guide rail. When the **robot** reaches a tower, it hangs the rail on the wires at both sides of the tower and moves along the rail. After reaching the other side of the tower, it folds up the rail until arriving at the next tower.

27/7/18 (Item 4 from file: 6)
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1641948 NTIS Accession Number: N92-17863/1
Closed-Loop Motor Control Using High-Speed Fiber Optics
(Patent Application)
Dawson, R. ; Rodriquiz, D.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
Corp. Source Codes: 019042004; ND185000
Report No.: PAT-APPL-7-780 513
Filed 22 Oct 91 26p
Languages: English Document Type: Patent
Journal Announcement: GRAI9212; STAR3008
This Government-owned invention available for U.S. licensing and, possibly, for foreign licensing. Copy of application available NTIS. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC N03/MF A01
Country of Publication: United States
A closed-loop control system for controlling the operation of one or more servo motors or other controllable devices is described. The system employs a fiber optics link immune to electromagnetic interference, for **transmission** of control **signals** from a controller or controllers at a remote station to the **power** electronics **located** in proximity to the motors or other devices at the local station. At the remote station the **electrical** control signals are time-multiplexed, converted to a formatted serial bit stream, and converted to **light signals** for **transmission** over a single fiber of the fiber optics link. At the local station, the **received** optical **signals** are reconstructed as **electrical** control signals for the controlled motors or other devices. At the local station, an encoder sensor linked to the driven device generates encoded feedback signals which provide information as to a condition of the controlled device. The encoded signals are placed in a formatted serial bit stream, multiplexed, and **transmitted** as optical **signals** over a second fiber of the fiber optic link which closes the control loop of the closed-loop motor controller. The encoded optical **signals received** at the remote station are demultiplexed, reconstructed and coupled to the controller(s) as **electrical** feedback signals.

27/7/19 (Item 5 from file: 6)
DIALOG(R)File 6:NTIS

1591719 NTIS Accession Number: PB91-207530
Development of Vision System for Intelligent Robot
Iida, Y. ; Ohmichi, T. ; Nakayama, H. ; Hayashi, T. ; Goto, Y.
Mitsubishi Heavy Industries Ltd., Tokyo (Japan).
Corp. Source Codes: 021763000
c1991 8p
Languages: English Document Type: Journal article
Journal Announcement: GRAI9119
Pub. in Mitsubishi Technical Review, v28 n1 p68-74 1991.
NTIS Prices: (Order as PB91-207498, PC A05/MF A01)
Country of Publication: Japan
A vision system suitable for autonomous mobile **robots** operating in nuclear plants has been developed. A laser range finder was used in the new vision system because of its compactness and high-reliability. In the system, three-dimensional coordinates of 16 384 points can be measured in one second with an error margin of + or - 1%. The recognition algorithm developed for the system uses the equal-height section method. The method can perform high-speed recognition regardless of the structural complexity of the object. Tests conducted on two types of valves demonstrated successful recognition of the objects in approximately three seconds, confirming its high-speed and efficient performance.

27/7/20 (Item 6 from file: 6)

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1586871 NTIS Accession Number: DE91010375
ALARA engineering at Department of Energy facilities: Bibliography of selected readings in radiation protection and ALARA
(Bibliography)
Dionne, B. J. ; Khan, T. A. ; Lane, S. G. ; Baum, J. W.
Brookhaven National Lab., Upton, NY.
Corp. Source Codes: 004545000; 0936000
Sponsor: Department of Energy, Washington, DC.
Report No.: BNL-43228-VOL.2
Mar 91 58p
Languages: English Document Type: Bibliography
Journal Announcement: GRAI9118; ERA9138
Sponsored by Department of Energy, Washington, DC.
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NTIS Prices: PC A04/MF A01
Country of Publication: United States
Contract No.: AC02-76CH00016
This report is the second in the series of bibliographies supporting the efforts at the Brookhaven National Laboratory ALARA Center on dose reduction at US Department of **Energy** (DOE) facilities. The BNL ALARA Center was originally established in 1983 under the sponsorship of the US Nuclear Regulatory Commission to monitor dose-reduction research and ALARA activities at nuclear **power** plants. This effort was expanded in 1988 by the DOE's Office of Environment, Safety and Health to include DOE nuclear facilities. Abstracts for this bibliography were selected from proceedings of technical meetings, journals, research reports, **searches** of the DOE **Energy** Data Base, and reprints of published articles provided by the authors. **Information** that the **reader** feels should be included in the next volume of this bibliography may be submitted to the BNL ALARA Center. These abstracts, which have a bearing on dose reduction, consolidates information from publications pertinent to Radiological Engineers and Operational Health Physicists. Volume 2 contains 127 abstracts numbered from 69 through 195 as well as author and subject indices. The subject index contains the abstract numbers from both the previous volume and the current volume, the latter being indicated in boldface.

27/7/21 (Item 7 from file: 6)
DIALOG(R)File 6:NTIS
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1547350 NTIS Accession Number: N90-29853/0
Vehicle Path-Planning in Three Dimensions Using Optics Analogs for Optimizing Visibility and Energy Cost
Rowe, N. C. ; Lewis, D. H.
Naval Postgraduate School, Monterey, CA.
Corp. Source Codes: 019895000; NS368219
Sponsor: National Aeronautics and Space Administration, Washington, DC.
31 Jan 89 10p
Languages: English
Journal Announcement: GRAI9104; STAR2824
In JPL, California Inst. of Tech., Proceedings of the NASA Conference on Space Telerobotics, Volume 4 p 217-226.
NTIS Prices: (Order as N90-29830/8, PC A19/MF A03)
Country of Publication: United States
Path planning is an important issue for space robotics. **Finding** safe and **energy** -efficient paths in the presence of obstacles and other constraints can be complex although important. High-level (large-scale) path planning for **robotic** vehicles was investigated in three-dimensional space with obstacles, accounting for: (1) **energy** costs proportional to path length; (2) turn costs where paths change trajectory abruptly; and (3) safety costs for the danger associated with traversing a particular path

due to visibility or invisibility from a fixed set of observers. Paths optimal with respect to these cost factors are found. Autonomous or semi-autonomous vehicles were considered operating either in a space environment around satellites and space platforms, or aircraft, spacecraft, or smart missiles operating just above lunar and planetary surfaces. One class of applications concerns minimizing detection, as for example **determining** the best **way** to make complex modifications to a satellite without being observed by hostile sensors; another example is verifying there are no paths (holes) through a space defense system. Another class of applications concerns maximizing detection, as finding a good trajectory between mountain ranges of a planet while staying reasonably close to the surface, or finding paths for a flight between two locations that maximize the average number of triangulation points available at any time along the path.

27/7/22 (Item 8 from file: 6)
DIALOG(R)File 6:NTIS

1094609 NTIS Accession Number: PB84-147016
Papers Presented at the 1977 IMEKO Conference Held at Prague on 22nd-26th August
(Technical note)
University of Wales Inst. of Science and Technology, Cardiff. Dept. of Mechanical Engineering and Engineering Production.
Corp. Source Codes: 065278002
Report No.: UWIST-DMEEP/DAG-103
c1977 21p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI8409
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NTIS Prices: PC E03/MF E03
Country of Publication: United Kingdom
The first of the three papers deals with the selection of optimum test frequencies for fault diagnosis of analogue circuits using an automated method. Appropriate fault cases are selected and the gain and phase response deviation evaluated. An initial set of frequencies is determined and using frequency domain scanning the algorithm proceeds to evaluate test frequencies to maximise confidence levels. In the second presentation, the authors describe a means for achieving fault diagnosis of complex electro-hydraulic systems by inputing pseudo-noise signals and correlating input-output **signals** . Deviations in **response** are used as test signatures to locate faults and several algorithms are described for detailed fault location. Finally, the implementation of computer-controlled automatic on-line test and fault diagnosis is described using an algorithm based on the cross-product method. Impulse responses of the system are obtained by a digital correlator and transferred to the computer for subsequent processing.

27/7/23 (Item 9 from file: 6)
DIALOG(R)File 6:NTIS

1072150 NTIS Accession Number: PB84-108299
Test Feature Selection for a Complex Electro-Hydraulic Servo System Using Frequency Response Measurements
Varghese, K. C. ; Cresswell, C. ; Towill, D. R. ; Williams, J. H.
University of Wales Inst. of Science and Technology, Cardiff. Dept. of Mechanical Engineering and Engineering Production.
Corp. Source Codes: 065278002
Sponsor: Admiralty Surface Weapons Establishment, Portsmouth (England).
Report No.: UWIST-DMEEP/DAG-132
c1980 17p

Languages: English
Journal Announcement: GRAI8402
Sponsored in part by Admiralty Surface Weapons Establishment, Portsmouth (England).
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC E03/MF E03
Country of Publication: United Kingdom
A technique was developed for the selection of the best set of test features for checkout or go-no-go test of a complex electro-hydraulic servo system from input-output measurements. The checkout tolerance bandson the system response were established. The measurement set based on gain and phase which would best discriminate between the 'healthy' and 'sick' systems was selected from initially sampled frequencies using an optimization procedure. A feature efficiency vector introduced in the program was used to add or discard features until a satisfactory set could be obtained. The selected feature sets were assessed for effectiveness by employing a 'goodness' criterion. A fault diagnosis scheme based on **pattern recognition** principles was also developed.

27/7/24 (Item 10 from file: 6)
DIALOG(R)File 6:NTIS
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0885486 NTIS Accession Number: AD-D008 137/2/XAB
Servo Control System for the Positioning of an Apparatus
(Patent Application)
Browder, G. B.
Department of the Navy, Washington, DC.
Corp. Source Codes: 001840000; 110050
Report No.: PAT-APPL-6-227 311
Filed 22 Jan 81 20p
Languages: English Document Type: Patent
Journal Announcement: GRAI8114
This Government-owned invention available for U.S. licensing and, possibly, for foreign licensing. Copy of application available NTIS. Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A02/MF A01
Country of Publication: United States
This invention relates to a servo control system for the positioning of a projector comprising a direct current motor having the projector connected to the shaft of the motor, and a digital computer for providing command signals to move the projector to a programmed position at a programmed velocity within a predetermined time period. A potentiometer produced an **electrical** signal indicative of the actual position of the projector, and a tachometer produces an **electrical** signal indicative of the actual velocity of the projector. Feedback means, in turn, provides a position error signal indicative of the difference between the programmed position and the actual position of the projector, provides a velocity error signal indicative of the difference between the programmed velocity and the actual velocity of the projector, and varies, in response to the position and velocity error signals, the voltage level of the command signal such that the projector will attain the programmed position within the predetermined time period. A forward feed servo enhancer generates, in response to the command signals, a forward feed enhancement signal which when combined with the command signals will reduce the velocity error signal to approximately zero volts.

27/7/25 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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05538863 E.I. No: EIP00045141184
Title: Environment exploration using an active vision sensor
Author: Clerentin, Arnaud; Pegard, Claude; Drocourt, Cyril
Corporate Source: Universite de Picardie Jules-Verne, Amiens, Fr
Conference Title: 1999 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS'99): Human and Environment Friendly Robots whith High Intelligence and Emotional Quotients'
Conference Location: Kyongju, South Korea Conference Date: 19991017-19991021
Sponsor: IEEE Industrial Electronics Society; IEEE Robotics and Automation Society; Robotics Society of Japan; Society of Instrument and Control Engineers; et al.
E.I. Conference No.: 56660
Source: IEEE International Conference on Intelligent Robots and Systems v 3 1999. IEEE, Piscataway, NJ, USA. p 1525-1530
Publication Year: 1999
CODEN: 85RBAH
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical); X; (Experimental)
Journal Announcement: 0006W1
Abstract: In this paper, an omnidirectional range sensor is reported. This active vision sensor combines a CCD camera and a laser diode. We use two methods to obtain the depth of the scene: a calibration method and a least square method. We describe the prototype we made. Experimental results are presented. A comparative test shows that this sensor seems to be as accurate as a laser telemeter but less sensitive to non-alignment. Its results are better than an ultrasonic sensor. Finally, we compare three segmentation algorithms and their results on the set of points given by the sensor. (Author abstract) 13 Refs.

27/7/26 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05101393 E.I. No: EIP98084347796
Title: Simultaneous map building and localization for mobile robots : **A multisensor fusion approach**
Author: Castellanos, J.A.; Martinez, J.M.; Neira, J.; Tardos, J.D.
Corporate Source: Universidad de Zaragoza, Zaragoza, Spain
Conference Title: Proceedings of the 1998 IEEE International Conference on Robotics and Automation. Part 2 (of 4)
Conference Location: Leuven, Belgium Conference Date: 19980516-19980520
Sponsor: IEEE
E.I. Conference No.: 48824
Source: Proceedings - IEEE International Conference on Robotics and Automation v 2 1998. IEEE, Piscataway, NJ, USA,98CB36146. p 1244-1249
Publication Year: 1998
CODEN: PIIAET ISSN: 1050-4729
Language: English
Document Type: CA; (Conference Article) Treatment: T; (Theoretical)
Journal Announcement: 9810W3
Abstract: During mobile **robot navigation , position estimates** obtained by odometry drift with time, therefore becoming unrealistic and useless. This work enhances the use of external mechanisms by considering a multi-sensor system, composed of a 2D laser rangefinder and an off-the-self CCD camera, which provides redundancy and assures reliability and precision of the observed features. We simultaneously consider both the map building and the localization problems using a state vector approach, which is related to the **location estimations** of both the **robot** and the map features, whilst its covariance matrix reflects the relationships between them. Relevance and importance of its off-diagonal elements is demonstrated by their contributions to `backwards estimations' whenever the vehicle returns to places in the navigation area which have been already visited and learned. Real experiments are presented, considering a LabMate mobile **robot** navigating in an static indoor environment. (Author abstract) 11

Refs.

27/7/27 (Item 3 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04636838 E.I. No: EIP97023538229
Title: Active range image sensing **for indoor mobile** robot
Author: Saito, Mamoru; Okanda, Yoshihira
Corporate Source: Osaka Municipal Technical Research Inst, Osaka, Jpn
Conference Title: Proceedings of the 1996 Japan-USA Symposium on Flexible Automation
Conference Location: Boston, MA, USA Conference Date: 19960707-19960710
E.I. Conference No.: 46109
Source: Proceedings of the Japan/USA Symposium on Flexible Automation v 1 1996.. p 533-536
Publication Year: 1996
CODEN: 002542
Language: English
Document Type: CP; (Conference Proceedings) Treatment: G; (General Review); T; (Theoretical); X; (Experimental)
Journal Announcement: 9704W3
Abstract: This paper describes a active range sensing strategy for indoor mobile **robot** . A method of obtaining a local model of environment including floor surface is developed. The sensor we have designed consists of laser slit beam generator and CCD camera, which is capable of fast range **image sensing** based on the principle of triangular measurement. This method is implemented by experimental system Computing time, accuracy and feasibility of this method are discussed through experimental results. (Author abstract) 5 Refs.

27/7/28 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04285858 E.I. No: EIP95112925089
Title: Effect of stray charge **on quantum cellular** automata
Author: Tougaw, P. Douglas; Lent, Craig S.
Corporate Source: Univ of Notre Dame, Notre Dame, IN, USA
Source: Japanese Journal of Applied Physics, Part 1: Regular Papers & Short Notes & Review Papers v 34 n 8B Aug 1995. p 4373-4375
Publication Year: 1995
CODEN: JAPNDE
Language: English
Document Type: JA; (Journal Article) Treatment: X; (Experimental)
Journal Announcement: 9601W2
Abstract: We study the operation of quantum cellular **automata** (QCA) devices in the presence of stray **charge** . The operation of linear arrays of QCA cells, called binary wires, relies on Coulombic interaction between the cells, which is affected by the presence of such stray **charge** . The **position** of the **charge determines** whether or not the devices function properly, and it is possible to determine the 'forbidden' region near the array in which the presence of stray **charge** causes device failure. We calculate this forbidden region by directly diagonalizing the Hamiltonian for the system including the stray **charge** . We **find** that the QCA binary wire is unaffected by stray **charge** at a distance greater than the intercellular repeat distance of the wire. (Author abstract) 6 Refs.

27/7/29 (Item 5 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03988482 E.I. No: EIP94112439034
Title: Development of high-speed 3-D range finder using binocular cameras
Author: Tanaka, Yutaka; Nakayama, Naoyuki; Goto, Jun

Source: Nippon Kikai Gakkai Ronbunshu, C Hen/Transactions of the Japan Society of Mechanical Engineers, Part C v 60 n 573 May 1994. p 1619-1624
Publication Year: 1994
CODEN: NKCHDB ISSN: 0387-5024
Language: English; Japanese
Document Type: JA; (Journal Article) Treatment: A; (Applications); T; (Theoretical)
Journal Announcement: 9501W2
Abstract: Many types of devices have already been presented for obtaining 2-D scene information; however, there are only a few devices for obtaining 3-D distance image, and a low-cost and high-speed device has not yet been developed to date. In this paper a high-speed acquisition system of distance image has been developed with the intent of the future industrial application. The device manufactured for trial, which **receives** the video **images** obtained by binocular cameras, can detect many characteristic points within each horizontal scanning line and find corresponding points, simultaneously leading to the output of parallax image. This output can be used as the distance signal as it is, thereby enabling the high-speed **measurement** of 3-D **distance** image. This high-speed function will lead to applications in that the device is applicable to not only the simultaneous **measurements** of **distance** and image but also the **robot** technologies, as well as the eyes of unmanned equipments and blind people. Some application tests to evaluate its characteristics showed that sufficient accuracy was attained in the **distance measurement** and the high practicability was confirmed. (Translated author abstract) 5 Refs.

27/7/30 (Item 6 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

03975646 E.I. No: EIP94112400639
Title: Energy **efficient sinusoidal path planning of** robot **manipulators**
Author: Diken, Hamza
Corporate Source: Istanbul Technical Univ, Istanbul, Turkey
Source: Mechanism & Machine Theory v 29 n 6 Aug 1994. p 785-792
Publication Year: 1994
CODEN: MHMTAS ISSN: 0094-114X
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); G; (General Review); T; (Theoretical)
Journal Announcement: 9412W4
Abstract: The main concern in path planning has been the time history of position, velocity, and acceleration of the end effector of the manipulator. In this study as a trajectory for the tip of the **robot** arm, sinusoidal path (SP) is assumed in cartesian coordinates. It is also assumed that the end point of the **robot** arm travels on this trajectory with the simple harmonic time function. Taking the amplitude of sinusoidal motion as a variable, an amplitude for SP motion is **searched** that makes the **energy** consumption minimum. Computations have shown that SP outward from the body of the manipulator in the xy plane and SP downward in the xy plane complete the task with the minimum **energy** . (Author abstract) 11 Refs.

27/7/31 (Item 7 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

02126209 E.I. Monthly No: EIM8610-071560
Title: SINGLE TRACK ABSOLUTE ENCODER USING CHARGE **COUPLED** IMAGE SENSOR .
Author: Kimura, K.; Minami, M.
Corporate Source: Tokyo Optical Co, Tokyo, Jpn
Conference Title: 13th Congress of the International Commission for Optics, Optics in Modern Science and Technology, Conference Digest.
Conference Location: Sapporo, Jpn Conference Date: 19840820

Sponsor: Int Commission for Optics, Delft, Neth; Chemical Soc of Japan, Jpn; Inst of Electrical Engineers of Japan, Jpn; Inst of Electronics & Communication Engineers of Japan, Jpn; IEEE, Int Optical Computing Conference, New York, NY, USA; et al
E.I. Conference No.: 08240
Source: Publ by Int Commission for Optics, Organizing Committee, Delft, Neth p 508-509
Publication Year: 1984
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8610
Abstract: Recently, many industries such as LSI, **robot** , and construction industries, require more and more accurate angular or locational control. To meet the requirement, various types of encoders including optical, magnetic, and electro-static encoders have been developed. This paper relates to a novel absolute rotary encoder installed in the surveying tools, which is to overcome the shown drawbacks. The compactness of the system could be assured also by a single-track encoder pattern, whereas the conventional absolute rotary encoder contains a multiple-track encoder pattern.

27/7/32 (Item 8 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

02123182 E.I. Monthly No: EIM8610-067693
Title: NEW STRING SEARCH HARDWARE ARCHITECTURE FOR VLSI.
Author: Takahashi, K.; Yamada, H.; Nagai, H.; Matsumi, K.
Corporate Source: NEC, Kawasaki, Jpn
Conference Title: 13th Annual International Symposium on Computer Architecture - Conference Proceedings.
Conference Location: Tokyo, Jpn Conference Date: 19860602
Sponsor: IEEE Computer Soc, Los Alamitos, CA, USA; ACM, Special Interest Group on Computer Architecture, New York, NY, USA; Information Processing Soc of Japan, Jpn
E.I. Conference No.: 08347
Source: Conference Proceedings - Annual Symposium on Computer Architecture 13th. Publ by IEEE, New York, NY, USA. Available from IEEE Service Cent (Cat n 86CH2291-3), Piscataway, NJ, USA p 20-27
Publication Year: 1986
CODEN: CPAADU ISSN: 0149-7111 ISBN: 0-8186-0719-X
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8610
Abstract: A new architecture for practical string search hardware design is presented. This architecture is based on the finite state automation design concept using a character control **charge** transfer model. The resultant hardware is a set of programmable sequential logic (PSL) circuits, each of which consists of sequential logic and memory parts. The logic part is an array of logical gates, each of which is controlled by the **readout signal** from the memory part, to connect the flip-flops. The memory part stores each variable-length pattern string character on a bit-line-by-bit-line basis. Then, several pattern strings in the memory part can be compared with the serial input data string in parallel, even at a nonanchor mode and an approximate matching mode. This new hardware can be implemented in an LSI chip which allows 8192 pattern string storage using 1-Mb RAM cells. 13 refs.

27/7/33 (Item 9 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

01903188 E.I. Monthly No: EIM8511-066464
Title: ASSEMBLY OF NON-STANDARD ELECTRICAL COMPONENTS USING STEREOSCOPIC IMAGE PROCESSING TECHNIQUES.
Author: Driels, Morris R.; Collins, Edward A.

Corporate Source: Univ of Rhode Island, Kingston, RI, USA
Conference Title: CIRP Annals 1985: Manufacturing Technology, Annals of the International Institution for Production Engineering Research. (35th General Assembly of CIRP.)
Conference Location: Palermo, Italy Conference Date: 19850826
Sponsor: CIRP, Paris, Fr
E.I. Conference No.: 06921
Source: CIRP Annals v 34 n 1 1985. Publ by Technische Rundschau, Berne, Switz p 1-4
Publication Year: 1985
CODEN: CIRAAT ISSN: 0007-8506 ISBN: 3-905277-03-4
Language: English
Document Type: PA; (Conference Paper)
Journal Announcement: 8511
Abstract: Although the assembly of standard, well defined, high volume **electrical** components into printed circuit boards is adequately handled using high speed automatic equipment, more irregular parts such as those **found** in **power** supply designs are not suited to such techniques. This paper outlines an approach to solving this problem using a **robot** to perform the insertion and a vision system to identify the precise location of the part being held in the **robot** 's gripper. To enable the vision system to produce the required accuracy, the camera has to be located close to the component being held by the **robot** . The design of a low cost, miniature, lightweight **image sensor** to accomplish this objective is outlined together with its interfacing to a small computer. Finally experimental tests comparing the **estimated position** of the leads of a large capacitor with those by direct measurement are presented. It is concluded that sufficient accuracy is available to complete insertion. (Edited author abstract) 9 refs.

27/7/34 (Item 10 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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00840711 E.I. Monthly No: EI7908063662 E.I. Yearly No: EI79064708
Title: Practical Methods for the Automatic Determination **of the** Position **of Objects by Means of** Robots .
Title: PRAKTYCZNE METODY AUTOMATYCZNEGO POMIARU POLOZEN PRZEDMIOTOW PRZEZ **ROBOTY** .
Author: Wojcik, Zbigniew Marcin
Corporate Source: Politech Warsaw, Pol
Source: Elektronika v 19 n 12 1978 p 513-515
Publication Year: 1978
CODEN: EKNTBZ ISSN: 0033-2089
Language: POLISH
Journal Announcement: 7908
Abstract: The paper presents the following methods of automatic recognition of the position of objects: a) based on a criterion of image alignment, b) by measurement of centroid coordinates of centering signs on the raster, c) by weighting the image of the object, d) by measurements of intersection moments of **scanning** ray with **image** boundary of the object, and e) by **searching** light **energy** extreme coming from the image of the object. 3 refs. In Polish with English abstract.

27/7/35 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci
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04963668 Genuine Article#: UV613 Number of References: 62
Title: ESTIMATION OF DISCHARGE FROM 3 BRAIDED RIVERS USING SYNTHETIC-APERTURE RADAR SATELLITE IMAGERY - POTENTIAL APPLICATION TO UNGAGED BASINS
Author(s): SMITH LC; ISACKS BL; BLOOM AL; MURRAY AB
Corporate Source: CORNELL UNIV,DEPT GEOL SCI,INST STUDY CONTINENTS,SNEE HALL/ITHACA//NY/14853; UNIV CALIF SAN DIEGO,SCRIPPS INST OCEANOG/LA JOLLA//CA/92093; UNIV CALIF LOS ANGELES,DEPT GEOG/LOS ANGELES//CA/90095

; UNIV MINNESOTA,DEPT GEOL & GEOPHYS/MINNEAPOLIS//MN/55455
Journal: WATER RESOURCES RESEARCH, 1996, V32, N7 (JUL), P2021-2034
ISSN: 0043-1397
Language: ENGLISH Document Type: ARTICLE
Abstract: Analysis of 41 ERS 1 synthetic aperture radar images and simultaneous ground measurements of discharge for three large braided rivers indicates that the area of active flow on braided river floodplains is primarily a function of discharge. A **power** law correlation is **found** between satellite-derived effective width W-e and discharge Q, where W-e is the water surface area within a braided reach divided by the reach length. Synthetic values of W-e and Q generated from a cellular **automata** model of stream braiding display a similar **power** law correlation. **Power** functions that are fit through plots of W-e and Q represent satellite-derived rating curves that can subsequently be used to estimate instantaneous river discharge from space, with errors ranging from tens to hundreds of cubic meters per second. For ungaged rivers, changes in relative discharge can be determined from satellite data alone to determine the shape and timing of annual flows in glacierized basins. Absolute discharge can probably be estimated within a factor of 2. More accurate estimates will require either (1) one or more ground measurements of discharge-acquired simultaneously with a satellite image acquisition, or (2) successful parameterization of known morphologic controls such as total sinuosity Sigma P, valley slope, bank material and stability, and braid channel hydraulic geometry. Values of total sinuosity Sigma P derived from satellite imagery and field measurements from two rivers of braid channel width, depth, velocity, water surface slope, and bed material grain size indicate that while the shape of satellite-derived W-e-Q rating curves may be influenced by all of these variables, the sensitivity of flow area to changing discharge is most dependent upon the degree of braiding. Efforts to monitor river discharge from space will be most successful for intensely braided rivers with high values of total sinuosity. Subsampling of existing daily discharge records from the Iskut River suggests that satellite return times of about 1 week are sufficient for approximating the shape and timing of the seasonal hydrograph in large, glacierized basins. Although errors are large, the presented technique represents the only currently available **way** to **estimate** discharge in ungauged braided rivers.

27/7/36 (Item 2 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

03614505 Genuine Article#: PR236 Number of References: 61
Title: ON THE CLASSICAL-THEORY OF THE RATE OF ISOMERIZATION OF HCN
Author(s): TANG H; JANG SM; ZHAO MS; RICE SA
Corporate Source: UNIV CHICAGO,DEPT PHYS/CHICAGO//IL/60637; UNIV CHICAGO,JAMES FRANCK INST/CHICAGO//IL/60637
Journal: JOURNAL OF CHEMICAL PHYSICS, 1994, V101, N10 (NOV 15), P8737-8746
ISSN: 0021-9606
Language: ENGLISH Document Type: ARTICLE
Abstract: We report the results of calculations, using classical mechanics, of the rate of the isomerization reaction HCN<->CNH. The three purposes of the calculations are (i) to test whether or not he Zhao-Rice approximate version of the Davis-Gray theory provides an accurate description of the rate of isomerization when there is a large scale atomic rearrangement; (ii) to determine if the quasi-two-dimensional reaction path representation of dynamical evolution on a multidimensional potential **energy** surface preserves the major features of the phase space mappings in two dimensions that are the key features of the Davis-Gray formulation of unimolecular reaction rate theory; and (iii) to **determine** if the reaction **path** representation is useful when the **energy** of the system is considerably greater than that along the minimum **energy** path. We **find** that both the Zhao-Rice (ZR) and the reaction **path** **calculations** of the isomerization rate constant are in reasonable agreement with the rate constant estimated

from trajectory calculations; the ZR rate constant is about a factor of 2 smaller, and the reaction path rate constant is about a factor of 2 larger, than that obtained from trajectory calculations. For the few data points available, the **energy** dependence of the ZR rate constant agrees very well with that obtained from trajectory calculations. The **energy** dependence of the reaction path rate constant is uniformly accurate over the range we have studied, but is in moderately good agreement with the values obtained from the trajectory studies. We conclude that the reaction path representation remains useful even when the **energy** of the reacting system is considerably greater than that along the minimum **energy** path.

27/7/37 (Item 3 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

03433772 Genuine Article#: NB837 Number of References: 27
Title: LIMITING TEMPERATURE FOR THE EXISTENCE OF COLLECTIVE MOTION IN HIGHLY EXCITED NUCLEI
Author(s): BORTIGNON PF; RIVA C; BRAGUTI M; DEBLASIO FV; BROGLIA RA; CASSING W; TOHYAMA M
Corporate Source: IST NAZL FIS NUCL,VIA CELORIA 16/I-20133 MILAN//ITALY/; UNIV MILAN,DIPARTIMENTO FIS/I-20133 MILAN//ITALY/; UNIV COPENHAGEN,NIELS BOHR INST/DK-2100 COPENHAGEN//DENMARK/; UNIV GIESSEN,INST THEORET PHYS/W-6300 GIESSEN//GERMANY/; KYORIN UNIV,SCH MED/MITAKA/TOKYO 181/JAPAN/
Journal: NUCLEAR PHYSICS A, 1994, V569, N1-2 (MAR 7), PC237-C244
ISSN: 0375-9474
Language: ENGLISH Document Type: ARTICLE
Abstract: Experimentally, the multiplicity of the gamma- **rays** **emitted** from very excited nuclei (E*/A greater-than-or-equal-to 2 MeV, A approximately 100) in the Giant Dipole Resonance (GDR) **energy** region is **found** to saturate against the prediction of standard statistical models. An interpretation in term of the costancy with temperature of the GDR spreading width is presented, pointing out open problems. It is stressed that a consistent understanding of nuclear structure properties at very high excitation **energy** is a prerequisite of any approach to the problem.

27/7/38 (Item 4 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

02570032 Genuine Article#: LM185 Number of References: 21
Title: SCALE-SPACE TRACKING AND DEFORMABLE SHEET MODELS FOR COMPUTATIONAL VISION
Author(s): WHITTEN G
Corporate Source: MARTIN MARIETTA CORP LABS/BALTIMORE//MD/21227; FAIRCHILD WESTON SYST INC,ADV DEV GRP/SYOSSET//NY/11791
Journal: IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE, 1993, V15, N7 (JUL), P697-706
ISSN: 0162-8828
Language: ENGLISH Document Type: ARTICLE
Abstract: Many problems in computational vision (including stereo correspondence, motion analysis and surface reconstruction) can be solved effectively using a constrained optimization approach, where smoothness is the common constraint. Moreover, these problems can be cast in a variational form that minimizes an **energy** functional. Unfortunately, standard optimization techniques tend to **find** only local **energy** minima. Coarse to fine scale space tracking (where **energy** minima at reduced resolution are found and successively tracked to higher resolution) has been demonstrated to find solutions of practical value. For smoothness-constrained optimization problems, we show that scale space tracking can be implicitly implemented by appropriately adjusting the smoothness constraint.

A useful physical model for controlled smoothness (deformable sheets) provides a natural framework for scale space tracking and addressing many vision problems that can be solved by appealing to a smoothness constraint. Deformable sheets are characterized by a global **energy** functional, and the smoothness constraint is represented by a linear internal **energy** term. In analogy to physical sheets, the model sheets are deformed by problem specific external forces and, in turn, impose smoothness on the applied forces.

We have related deformable sheet smoothness properties to Gaussian blurring (the common expression of scale) and used this relationship to unify the concepts of scale and smoothness. In our formulation, the smoothness/scale state is controlled by a single parameter in the deformable sheet model. This single parameter control of scale makes it possible to perform scale space tracking by solving the differential equation that describes the trajectory of **energy** minima through scale space. Further, it permits adaptive scale step size selection based on the local properties of scale space, which allows for much larger steps than would be possible with the conservative step size required by nonadaptive techniques. We show that this process is characterized by a sparse linear system and prove that the associated matrix is positive definite and, consequently, nonsingular. Our analysis also provides for the determination of scale-dependent parameters, which is useful for efficient multiresolution processing.

We have applied the deformable sheet model described to different problems in computational vision using real imagery with encouraging results, which are presented here.

27/7/39 (Item 5 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

02076754 Genuine Article#: JY535 Number of References: 12
Title: QUANTUM MOLECULAR COMPUTING - THE SELF-ASSEMBLY MODEL
Author(s): CONRAD M
Corporate Source: WAYNE STATE UNIV,DEPT COMP SCI/DETROIT//MI/48202
Journal: INTERNATIONAL JOURNAL OF QUANTUM CHEMISTRY, 1992, S19, P125-143
ISSN: 0020-7608
Language: ENGLISH Document Type: ARTICLE
Abstract: The principle of macromolecular self-assembly is used to construct a model of computing that exploits quantum effects to achieve enhanced real-time capabilities. Signals impinging on a device (or biological cell) trigger the appearance of macromolecules that self-assemble into a mosaic. Adaptor enzymes recognize features of the mosaic and link these to the output of the device. In this way, a symbolic **pattern recognition** problem is converted to a free- **energy** minimization process. A Hartree-type self-consistent-field formalism is developed for treating the self-assembly process. The formalism demonstrates that the parallelism inherent in the quantum mechanical wave function (the superposition of electronic states) can speed up the exploration of the potential surface, thereby increasing computational **search power** over what can be achieved with conventional models of computation.

27/7/40 (Item 1 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01614522 ORDER NO: AAD98-12877
PATH PLANNING STRATEGIES FOR AUTONOMOUS GROUND VEHICLES (DYNAMIC PROGRAMMING)
Author: GIFFORD, KEVIN KENT
Degree: PH.D.
Year: 1997
Corporate Source/Institution: UNIVERSITY OF COLORADO AT BOULDER (0051)

Directors: GEORGE W. MORGENTHALER; ROBIN R. MURPHY
Source: VOLUME 58/10-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 5496. 147 PAGES

Several key issues involved with the planning and executing of optimally generated paths for autonomous vehicles are addressed. Two new path planning algorithms are developed, and examined, which effectively minimize replanning as unmapped hazards are encountered. The individual algorithms are compared via extensive simulation. The search strategy results are implemented and tested using the University of Colorado's autonomous vehicle test-bed, RoboCar, and results show the advantages of solving the single-destination all-paths problem for autonomous vehicle path planning.

Both path planners implement a graph search methodology incorporating dynamic programming that solves the single-destination shortest-paths problem. Algorithm 1, termed DP for dynamic programming, searches a state space where each state represents a potential vehicle location in a breadth-first fashion expanding from the goal to all potential start locations in the state space. Algorithm 2, termed DP*, couples the heuristic **search power** of the well-known A* search procedure (Nilsson-80) with the dynamic programming principle applied to graph searching to efficiently make use of overlapping subproblems. DP* is the primary research contribution of the work contained within this thesis. The advantage of solving the single-destination shortest-paths problem is that the entire terrain map is solved in terms of reaching a specified goal. Therefore, if the **robot** is diverted from the pre-planned path, an alternative **path** is already **computed** .

The search algorithms are extended to include a probabilistic approach using empirical loss functions to incorporate terrain map uncertainties into the path considering terrain planning process. The results show the importance of considering terrain uncertainty. If the map representation ignores uncertainty by marking any area with less than perfect confidence as unpassable or assigns it the worst case rating, then the paths are longer than intuitively necessary.

A hierarchical software control architecture is introduced that uses as the main guidance function an arbitration-based scheme which is able to efficiently and robustly integrate disparate **sensor data** . The flexibility provided by such an architecture allows for very easy integration of any type of environmental sensing device into the path planning algorithm.

27/7/41 (Item 2 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01598373 ORDER NO: AAD98-00034
ROBOTIC **PATH PLANNING USING A VARIATIONAL APPROACH WITH AN IMPROVED METHOD OF GENERATING CONFIGURATION SPACE (MINIMUM** ENERGY **PATH, OBSTACLES)**
Author: MCCRACKEN, RICHARD R.
Degree: PH.D.
Year: 1997
Corporate Source/Institution: UNIVERSITY OF DELAWARE (0060)
Professor In Charge: ROMAIN V. ROY
Source: VOLUME 58/07-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 3889. 245 PAGES

This dissertation has two primary goals which are to find an improved method to derive the Configuration space (C-space) associated with a manipulator in an obstacled environment, then to implement a novel approach to solve the minimum **energy** path planning problem in the newly formed C-space.

The Jacobian method of generating the C-space uses a uniform upper bound on the maximum displacement for any point on the manipulator given a defined input to each joint. This allows for blocks of C-space to be defined as "free", "obstacled", or "unknown" with the unknown blocks further refined into smaller blocks until they can be defined as free or obstacled. The process continues until the entire C-space is determined

within a given precision. This research implements a non-uniform bound on the maximum displacement for points on the manipulator, making the maximum displacements a function of the current position of the manipulator. This non-uniform bound allows the Jacobian method to more quickly define areas of C-space as either obstacled or free, thus allowing a faster convergence of the entire C-space.

Once a given C-space has been **determined**, our **path** planning algorithm minimizes the **energy** required to perform any task where the manipulator moves from point A to point B. This begins with both the kinematic and dynamic modeling of the **robot** and subsequent derivation of the equations of motion and the joint torques of the dynamic system. The **energy** functional is built by adding the squares of the joint torques and integrating over the time allowed to perform the task. Obstacles are added to the **energy** integral using a penalty function technique which severely penalizes any path which attempts to cross into an obstacle-filled region.

The Euler-Poisson equation is applied to the integrand of the **energy** integral to produce two coupled, non-linear, ordinary differential equations. The solution to these ODE's gives the minimum **energy** path in the obstacled C-space environment. Finite-difference operators replace derivatives and the Newton-Raphson technique is applied to solve the coupled ODE's and provide the minimum **energy** path. The solution is only minimized in a local sense and therefore a series of initial paths are selected to check for multiple solutions. The results **find** minimum **energy** paths for even the more challenging C-space's which result from multiple obstacles within the work envelope. The algorithm proves robust by converging to solutions from initial paths which pass through both obstacle-free and obstacle-filled regions.

27/7/42 (Item 3 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

01123920 ORDER NO: AAD90-26786
FINDING NATURAL CLUSTERS THROUGH ENTROPY MINIMIZATION
Author: WALLACE, RICHARD SCOT
Degree: PH.D.
Year: 1989
Corporate Source/Institution: CARNEGIE-MELLON UNIVERSITY (0041)
Adviser: TAKEO KANADE
Source: VOLUME 51/05-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 2470. 145 PAGES

The main contribution of this thesis is a two-step procedure that finds natural clusters in geometric point data without requiring a user to specify any threshold parameters or "magic numbers." The first step exploits a new algorithm called NIHC (Numerical Iterative Hierarchical Clustering). NIHC finds a cluster tree minimizing an entropy objective function. The second step is a recursive procedure that searches the tree for level clusters having minimum description length (MDL).

This thesis reports experiments with and analysis of NIHC. The algorithm uses a transformation called the grab operation to iteratively reduce the value of an objective function defined recursively over the tree. Gaussian entropy is one such function studied here. NIHC reaches lower local entropy minima than the standard agglomerative algorithm.

The input to NIHC is an arbitrary cluster tree such as a k-d tree. NIHC repeatedly searches for grabs to transform each subtree into a lower **energy** state. When NIHC can **find** no more **energy** -reducing grabs resulting tree is partially optimal in a strong sense that does not hold for cluster trees produced by other algorithms. Experiments quantitatively compare NIHC using Gaussian entropy with other hierarchical clustering algorithms. To cluster n points, an iteration of NIHC takes at most O(n$\sp3$) steps for an unbalanced tree and at most O(n$\sp2$) steps for a balanced tree. NIHC does not store an O(n$\sp2$) cluster distance matrix. NIHC consumes only O(n) storage for the tree itself. This thesis also reports further speedups, such as a branch-and-bound procedure, heuristics to prune the grab search and parallel versions of NIHC.

MDL theory is concerned with **finding** minimum **information** models

that encode data. A description length formula tells how many bits are needed to represent the data given some clustering, plus the bits needed for the clustering itself. MDL theory eliminates free parameters from clustering objective functions. A program finding the MDL level clustering solves some point perceptual grouping problems.

A space-time clustering program uses NIHC to track time-varying clusters in **robot sensor data**, such as data obtained from from a range sensor in the presence of moving obstacles. This program is demonstrated in two domains: following a road in ERIM range data and tracking multiple moving obstacles in 2-d laser range data. ftn*This research was sponsored in part by the Defense Advanced Research Projects Agency (DOD), ARPA Order No. 7976 under Contract F33614-87-C-1499 and monitored by: Avionics Laboratory, Air Force Wright Aeronautical Laboratories, Aeronautical Systems Division (AFSC), Wright-Patterson AFB, OH 45433-6543. Support was also given by a Hughes Aircraft Company Fellowship.

The views and conclusions contained in this document are those of the author and should not be interpreted as representing the official policies, either expressed or implied, of the Defense Advanced Research Projects Agency, Hughes Aircraft Corporation or the U.S. Government.

27/7/43 (Item 4 from file: 35)
DIALOG(R)File 35:Dissertation Abs Online

1061373 ORDER NO: AAD89-10345
INTRANEURONAL DYNAMICS AND EVOLUTIONARY LEARNING
Author: KIRBY, KEVIN GARDNER
Degree: PH.D.
Year: 1988
Corporate Source/Institution: WAYNE STATE UNIVERSITY (0254)
ADVISER: MICHAEL CONRAD
Source: VOLUME 50/02-B OF DISSERTATION ABSTRACTS INTERNATIONAL.
PAGE 644. 321 PAGES

In recent years the **search** for computational **power** via massive parallelism has led to a renaissance in brain-like architectures. Within this "connectionist" paradigm, however, the computational **power** of individual neuron-like processors has been trivialized. A biological neuron is an almost incomprehensibly intricate system, and the existence of complex internal dynamics suggests a foundation for more powerful non-connectionist computations. I have undertaken to explore such a possibility, taking as a starting point two elements of a brain model proposed by M. Conrad: the enzymatic neuron and evolutionary learning algorithm. Enzymatic neurons are neuron models in which synaptic inputs are processed by propagation of excitation signals across a grid of fixed read-out enzymes ("excitases"). This model is instantiated by a class of real neurons in which the substance cyclic AMP acts as an intracellular messenger. The firing behavior of such a neuron can be controlled by varying the distribution of the enzymes on the membrane. This suggests that a plausible neural learning mechanism involves the selection of nets of neurons with appropriately distributed excitases. The evolutionary learning algorithm uses variation, propagation and selection to generate optimal behaviors in a small population of neural nets. I have formalized the enzymatic neuron model, studied its relationship to other neuron models, established its biophysical basis in real neurons, mathematically characterized its limitations as a perceptron-like **pattern recognizer**, and integrated it into a learning system controlled by an enhanced version of the evolutionary learning algorithm. The enzymatic neuron processor is similar to the reaction-diffusion model in Alan Turing's work on the morphogenesis problem, and serves as a model of computation complementary to the canonical Turing machine. I investigate its computational **power** by studying its performance in learning three tasks of increasing complexity: (1) A general bit-vector optimization task; (2) A simple **robot** target-seeking and stabilization task; (3) A complex open-ended **robot** **navigation** task. **Computer** simulations are checked against mathematical characterizations of the learnable behaviors. In particular, I show how the

dynamics of reacting and diffusing signals contributes to the effectiveness of evolutionary learning.

27/7/44 (Item 1 from file: 94)
DIALOG(R)File 94:JICST-EPlus

01513015 JICST ACCESSION NUMBER: 91A0911262 FILE SEGMENT: JICST-E
Stereo Vison and Visual Recognition.
NAKAYAMA RYOICHI (1); OKANO HIDEHARU (1); MIYAZAWA TATSUO (1); KUNO YOSHINORI (2)
(1) Toshiba Corp., Nuclear Engineering Lab.; (2) Toshiba Corp., Res. and Development Center
Nippon Robotto Gakkaishi(Journal of the Robotics Society of Japan), 1991, VOL.9,NO.5, PAGE.659-661,665, FIG.6, REF.5
JOURNAL NUMBER: Y0482AAO ISSN NO: 0289-1824
UNIVERSAL DECIMAL CLASSIFICATION: 681.3:165 621.311.25:621.039
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Commentary
MEDIA TYPE: Printed Publication
ABSTRACT: This paper explains the results for the titled development on the elementary technology, conducted by the technology research association for **robots** for critical environments. The technology for utilizing visual information in **robots** for atomic **energy** was taken. Autonomous control was carried out by a **robot** with functions such as confirmation of the position of **robot** itself, detection of obstacles ahead of the **robot** , recognition of the work object, etc. As results of experiment which simulated nuclear **power** facilities, it was **found** that the mobile work can be made intelligent.

27/7/45 (Item 1 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01251818 I98110017300
Constrained active region models for fast tracking in color image sequences
Ivins, J; Porrill, J
Artifical Intelligence Vision Res. Unit, Sheffield Univ., UK
Computer Vision Image Understanding, v72, n1, pp54-71, 1998
Document type: journal article Language: English
Record type: Abstract
ISSN: 1077-3142
ABSTRACT:
Image segmentation is a fundamental problem in computer vision, for which deformable models offer a partial solution. Most deformable models work by performing some kind of edge detection; complementary region growing methods have not often been used. As a result, deformable models that track regions rather than edges have yet to be developed to a great extent. Active region models are a relatively new type of deformable model driven by a region **energy** that is a function of the statistical characteristics of an image. This paper describes the use of constrained active region models for frame-rate tracking in color video images on widely available computer hardware. Two of the many color representations now in use are reviewed for this purpose: the intensity-based RGB space and the more intuitive HSV space. Normalized RGB, which is essentially a measure of hue and saturation, emerges as the preferred representation because it is invariant to illumination changes and can be obtained from many frame-grabbers via a simple fast software transformation. Three types of motion are examined for constraining deformable models: rigid models can only translate and rotate to fit image features; conformal models can also change size; affine models exhibit two kinds of shearing in addition to the other components. Two methods are described for producing affine motion, given the desired unconstrained motion calculated by **searching** for local **energy** minima lying perpendicular to the model boundary. An existing

method, based on iterative gradient descent, computes translating, rotating, scaling, and shearing forces which can be combined to produce affine and other types of motion. A faster, more accurate method uses least-squares minimization to approximate the desired motion; with this method it is also possible to derive specific equations for rigid and conformal motion and to correct for the aperture problem associated with the perpendicular search method. The advantages of the new least-squares method are illustrated by using it to drive an active region model via an affine transformation which tracks the movements of a **robot** arm at frame rate in color video images.

27/7/46 (Item 1 from file: 233)
DIALOG(R)File 233:Internet & Personal Comp. Abs.

00478325 97PM11-053
Get the good stuff -- Just because a search engine can't find it doesn't mean it's not there. The best stuff on the Web is hidden behind error messages...
PC/Computing , November 1, 1997 , v10 n11 p240-245, 4 Page(s)
ISSN: 0899-1847
Presents, as part of the special report on undocumented Internet secrets, tips on how to find ``the best stuff on the Web.'' Includes information on where to find a directory of obscure Web databases, how to override a search engine's limitations, options for Web **power - searching** , and **search** engine options. Suggests methods for sending URLs via e-mail, making cookie-free visits to sites, performing a **navigation** **analysis** , finding your own IP address, receiving notification of Web page updates, setting up a private network, and performing **robot** -based searches. Includes three sidebars, 12 screen displays, and one list of references. (kgh)
?

Set	Items	Description
S1	295128	ROBOT? ? OR ROBOTIC OR TOYROBOT? OR ROBOTTOY? OR ROBOTPET? OR PETROBOT? OR ANIMALROBOT? OR ROBOTANIMAL? OR AIBO OR ROBOTDOG? OR DOGROBOT?
S2	113726	TELEOPERATOR? OR TELEOPERATER? OR TELE()(OPERATOR? OR OPERATER?) OR MECHATRONIC? OR SERVOMECHANISM? OR SERVO()MECHANISM? OR AUTOMATA OR AUTOMATON?
S3	32	AUTOMATED(1W)MECHANICAL()(DEVICE? OR MANIPULAT? OR APP?? OR APPARATUS? OR INSTRUMENT????? ? OR EQUIPMENT? OR INVENTION? OR UNIT? ? OR ASSEMBL? OR APPLIANCE? OR SYSTEM? ?)
S4	12337697	PICKUP OR PICK???()UP OR RECOGNI? OR DETECT? OR FIND? OR FOUND OR READ??? OR DISCRIMINAT? OR IDENTIF? OR SENS??? OR SCAN OR SCANS OR SCANNED OR SCANNING
S5	829533	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(IMAGE? OR INFORMATION OR DATA OR PRINT OR PRINTED OR 3D OR DIMENSION? OR COLOR? OR COLOUR? OR PATTERN?)
S6	307694	(S4 OR RECEIV? OR REPOND? OR RESPONSE? OR RECEPT?)(2N)(BARCOD? OR BAR()(CODE? ? OR CODING) OR SIGNAL??? OR UPC OR UPCS OR SKU OR SKUS OR 2D OR STEREOSCOP?)
S7	13121	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(STEREOGRA? OR HOLOGRA? OR CUBIC OR VOLUMETRIC OR MULTIDIMENSION?)
S8	1337	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(UNIVERSAL()PRODUCT OR IDENTIF? OR ID)()(CODE? ? OR CODING)
S9	4274611	TRANSMIT? OR TRANSMIS? OR SEND? OR SENT OR RECEIV? OR EMIT? OR EMIS? OR .EMANAT?
S10	304222	S9(2N)(LIGHT OR PHOTIC? OR INFRARED? OR RADIA????? OR SOUND? ? OR SOUNDWAVE? OR AUDIO OR AUDIOWAVE? OR RADIOWAVE? OR MAGNETICWAVE? OR MAGNETIC)
S11	21017	S10(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENSITIV? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL??? OR WAVE? ? OR SONIC? ?)
S12	8590430	RANGE? OR BEAR??? OR DISTAN? OR DIRECTION? OR LOCAT? OR SITUAT?? OR PLACEMENT? OR EMPLAC? OR POSITION? ? OR VECTOR? OR PLACED OR PATH OR COURSE
S13	2140890	NAVIGAT? OR HEADING OR ORIENTATION OR ROUTE? OR ROUTING OR WAY
S14	879123	S12-S13(3N)(CALCULAT? OR MEASUR? OR COMPUT? OR GAUG? OR ASSESS? OR ANALYS? OR ANALYT? OR ANALYZ? OR DETERMIN? OR DET? ? OR QUANTIF? OR DERIV?)
S15	231685	S12:S13(3N)(MENSUR? OR EVALUAT? OR FIGUR??? OR TABULAT? OR CALIBRAT? OR ESTIMAT? OR APPROXIMAT?)
S16	30950	S1:S3 AND S5:S8
S17	27488	S1:S3 AND S14:S15
S18	390369	S9(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENS? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL???? OR WAVE? ? OR SONIC? ?)
S19	2300	S1:S3 AND (S10 OR S18)
S20	8855615	REGENERAT? OR REENERGI? OR RECHARG? OR BATTERY? OR BATTERIES OR CHARGE? ? OR CHARGING OR POWER OR ENERGY OR ELECTRICITY OR ELECTRICAL
S21	71716	(FUEL OR ELECTROCHEMICAL)()CELL? ?
S22	5319	(S16:S17 OR S19) AND S20:S21
S23	106831	S20:S21(3N)(SEARCH? OR LOCAT? OR FIND? OR FOUND OR SEEK? OR LOOK?)
S24	68	S22 AND S23
S25	54	RD (unique items)
S26	8	S25/2000:2002
S27	46	S25 NOT S26
S28	37	S17 AND S23
S29	28	RD (unique items)
S30	5	S29/2000:2002
S31	0	S29 NOT (S30 OR S24)
S32	37	S1:S3 AND S14:S15 AND S23
S33	0	S32 NOT S24
S34	264	S1:S3 AND S14:S15(5N)S20:S21
S35	484698	REGENERAT? OR REENERGI? OR RECHARG? OR BATTERY? OR BATTERIES

S36 276 (CHARGE? ? OR CHARGING)()STATION? ?
S37 147119 (POWER OR ENERGY OR ELECTRICITY OR ELECTRICAL)(2N)SOURCE?
S38 9 S1:S3 AND S14:S15(5N)(S21 OR S35:S37)
S39 8 RD (unique items)
?t39/7/all

39/7/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6670260 INSPEC Abstract Number: C2000-09-3390C-073
Title: Robust navigation and battery re-charging system for long term activity of autonomous mobile robot
Author(s): Hada, Y.; Yuta, S.
Author Affiliation: Intelligent Robot Lab., Tsukuba Univ., Ibaraki, Japan
Conference Title: Proceedings of the Ninth International Conference on Advanced Robotics. 99 ICAR p.297-302
Publisher: Japan Robot Assoc, Tokyo, Japan
Publication Date: 1999 Country of Publication: Japan i+596 pp.
Material Identity Number: XX-1999-02998
Conference Title: Proceedings of 1999 International Conference on Advanced Robotics
Conference Sponsor: Robotics Soc. Japan; Soc. Biomechanisms Japan; Japan Robot Assoc.; Manuf. Sci. & Technol. Center; Micromachine Center
Conference Date: 25-27 Oct. 1999 Conference Location: Tokyo, Japan
Language: English Document Type: Conference Paper (PA)
Treatment: Experimental (X)
Abstract: Our research interest is the long term activity of autonomous mobile **robots** . The purpose of our research is to enhance the autonomy of intelligent **robots** . For this purpose, we developed an autonomous energy supply system. It consists of a **battery** monitor, a **position estimation** system, **navigation** software between any two points and docking system to the base in a real room environment. These are essential functions for the mobile **robot** which can deal with many tasks for a long duration. We implemented them as a system level software which is independent on the task programs. We conducted experiments using the above-mentioned system in a room environment. (4 Refs)
Subfile: C

39/7/2 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

1712619 NTIS Accession Number: DE93000366
Mobile autonomous robot **for radiological surveys**
Dudar, A. M. ; Wagner, D. G. ; Teese, G. D.
Westinghouse Savannah River Co., Aiken, SC.
Corp. Source Codes: 094916000; 9525316
Sponsor: Department of Energy, Washington, DC.
Report No.: WSRC-MS-92-305; CONF-921102-22
1992 12p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI9310; ERA9317
Joint American Nuclear Society (ANS)/European Nuclear Society (ENS) international meeting on fifty years of controlled nuclear chain reaction: past, present, and future, Chicago, IL (United States), 15-20 Nov 1992. Sponsored by Department of Energy, Washington, DC.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
Contract No.: AC09-89SR18035
The Robotics Development Group at the Savannah River Site is developing an autonomous **robot** (SIMON) to perform radiological surveys of

potentially contaminated floors. The **robot** scans floors at a speed of one-inch/second and stops, sounds an alarm, and flashes lights when contamination in a certain area is detected. The contamination of interest here is primarily alpha and beta-gamma. The **robot** , a Cybermotion K2A base, is radio controlled, uses dead reckoning to **determine** vehicle **position** , and docks with a **charging station** to replenish its **batteries** and **calibrate** its **position** . It uses an ultrasonic ranging system for collision avoidance. In addition, two safety bumpers located in the front and the back of the **robot** will stop the **robots** motion when they are depressed. Paths for the **robot** are preprogrammed and the **robots** motion can be monitored on a remote screen which shows a graphical map of the environment. The radiation monitor. This monitor is microcomputer based with a serial I/O interface for remote operation. Up to 30 detectors may be configured with the RM22A.

39/7/3 (Item 2 from file: 6)
DIALOG(R)File 6:NTIS
(c) 2002 NTIS, Intl Cpyrght All Rights Res. All rts. reserv.

1659249 NTIS Accession Number: DE92010040
SIMON: A mobile robot **for floor contamination surveys**
Dudar, E. ; Teese, G. ; Wagner, D.
Westinghouse Savannah River Co., Aiken, SC.
Corp. Source Codes: 094916000; 9525316
Sponsor: Department of Energy, Washington, DC.
Report No.: WSRC-MS-91-189; CONF-9110344-7
1991 11p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI9218; ERA9237
Westinghouse computer symposium, Monroeville, PA (United States), 21-22 Oct 1991. Sponsored by Department of Energy, Washington, DC.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A03/MF A01
Country of Publication: United States
Contract No.: AC09-89SR18035
The Robotics Development group at the Savannah River Site is developing an autonomous **robot** to perform radiological surveys of potentially contaminated floors. The **robot** scans floors at a speed of one-inch/second and stops, sounds an alarm, and flashes lights when contamination in a certain area is detected. The contamination of interest here is primarily alpha and beta-gamma. The contamination levels are low to moderate. The **robot** , a Cybermotion K2A, is radio controlled, uses dead reckoning to **determine** vehicle **position** , and docks with a **charging station** to replenish its **batteries** and **calibrate** its **position** . It has an ultrasonic collision avoidance system as well as two safety bumpers that will stop the **robot** 's motion when they are depressed. Paths for the **robot** are preprogrammed and the **robot** 's motion can be monitored on a remote screen which shows a graphical map of the environment. The radiation instrument being used is an Eberline RM22A monitor. This monitor is microcomputer based with a serial I/O interface for remote operation. Up to 30 detectors may be configured with the RM22A. For our purposes, two downward-facing gas proportional detectors are used to scan floors, and one upward-facing detector is used for radiation background compensation. SIMON is interfaced with the RM22A in such a way that it scans the floor surface at one-inch/second, and if contamination is detected, the vehicle stops, alarms, and activates a voice synthesizer. Future development includes using the contamination data collected to provide a graphical contour map of a contaminated area. 3 refs.

39/7/4 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)
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04966657 E.I. No: EIP98034107068
Title: Designing an autonomous robot vehicle
Author: D'Souza, Rohit
Source: IEEE Potentials v 17 n 1 Feb-Mar 1998. p 40-43
Publication Year: 1998
CODEN: IEPTDF ISSN: 0278-6648
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); G; (General Review)
Journal Announcement: 9805W1
Abstract: In the fall of 1996, a class of 32 EE students built a mobile **robot** vehicle. The **robot** complete three laps around a wooden track, and at the beginning of each lap, drop a coin in a tool slot in an order specified to the vehicle at the starting line. The vehicle makeup with a particular emphasis on its power supply, sensors, microcontroller, and mechanics is presented and discussed. 2 Refs.

39/7/5 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

01567714 E.I. Monthly No: EI8409098459 E.I. Yearly No: EI84134722
Title: ROBOT VISION IMPLEMENTATION BY HIGH-SPEED IMAGE PROCESSOR TOSPIX: BATTERY INSPECTION.
Author: Kuno, Yoshinori; Numagami, Hideo; Ishikawa, Minoru; Hoshino, Hiroshi; Nakamura, Yasushi; Kidode, Masatsugu
Corporate Source: Toshiba Research & Development Cent, Information Systems Lab, Kawasaki, Jpn
Source: Robotica v 1 pt 4 Oct 1983 p 223-230
Publication Year: 1983
CODEN: ROBODV ISSN: 0263-5747
Language: ENGLISH
Journal Announcement: 8409
Abstract: An intelligent **robot** vision system is presented based on TOSPIX which has been newly developed to realize frequently-used and time-consuming image processing functions at low-cost and high-speed. The vision system has been studied for use in observing surface information about electric parts (dry batteries), inspecting them and then placing good ones into a given box. Three major **robot** vision functions are implemented: object recognition, inspection and position determination by binary and gray-scale image processing techniques. While binary image techniques are used in **battery** terminal inspection and box **position determination** gray-scale image processing functions are performed in a label pattern check on a battery surface, front or rear surface determination, and surface defect inspection. 4 refs.

39/7/6 (Item 1 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

01162642 E97120394252
Willi - weiterentwickelt. Experimente mit Soft- und Hardware, Teil 3
Altenburg, J; Altenburg, U
Elrad - Magazin fuer Elektronik und technische Rechneranwendungen, v44, n12, pp77-83, 1997
Document type: journal article Language: German
Record type: Abstract
ISSN: 0170-1827

ABSTRACT:
Vorgestellt werden die Hardware und Programmier-Werkzeuge fuer den Aufbau eines Roboter-Fahrzeuges in Miniaturausfuehrung auf der Basis des 8/16-Bit-Mikrocontrollers ST9. Das Fahrzeug besteht aus einer Leiterplatte mit den Abmessungen 80 mm x 100 mm, die die Akkus, die Motortraeger, die Leistungselektronik, die Sensoren und das Interface traegt. Der Antrieb des Roboters erfolgt ueber zwei Schrittmotore, die mit geringem Rechenaufwand

eine schrittgenaue Steuerung ermoeglichen. Die Treiberelektronik besteht aus einer Brueckenschaltung mit Bipolartransistoren L6219 von SGS, die den Motor im Strom-Chopperbetrieb versorgt. Die Stromversorgung erfolgt aus zwei 8,4 V NiCd-Akkus. Zur Verhinderung von Kollisionen ist eine Grundausstattung von Fotosensoren vorgesehen, die sich aber beliebig erweitern laesst. Die Programmierung der Fahrtroute erfolgt mit OC-Basic. Der Roboter beherrscht Fahrten wie geradeaus, vorgegebene Kurve, Wegpunkte und Wendepunkte. Der eingegebene Kurs wird von Punkt zu Punkt in dem Programm KURS.EXE abgespeichert. Die vorgestellte Ausfuehrung des Roboters ist begrenzt einsetzbar, jedoch hinsichtlich Mechanik und Elektronik aufgabenspezifisch erweiterbar.

39/7/7 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

13450998 PASCAL No.: 98-0146076
Designing an autonomous robot **vehicle**
D SOUZA R
Journal: IEEE Potentials, 1998, 17 (1) 40-43
ISSN: 0278-6648 CODEN: IEPTDF Availability: E.i.
No. of Refs.: 2 Refs.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: United States
Language: English
In the fall of 1996, a class of 32 EE students built a mobile **robot** vehicle. The **robot** complete three laps around a wooden track, and at the beginning of each lap, drop a coin in a tool slot in an order specified to the vehicle at the starting line. The vehicle makeup with a particular emphasis on its power supply, sensors, microcontroller, and mechanics is presented and discussed.

39/7/8 (Item 2 from file: 144)
DIALOG(R)File 144:Pascal

10358520 PASCAL No.: 92-0561980
AUV 92 : proceedings of the symposium on autonomous underwater vehicle technology, June 2-3, 1992, Washington DC
IEEE. Oceanic Engineering Society, USA.
Symposium on autonomous underwater vehicle technology (Washington DC USA) 1992-06-02
1992 309 p., ill., index Non-paginated pages/foldouts
Publisher: IEEE, New York NY
Availability: INIST-Y 29246; 354000028414690000
Document Type: C (Conference Proceedings) ; M (Monographic)
Country of Publication: USA
Language: English Summary Language: English
?

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File 347:JAPIO Oct 1976-2002/Mar(Updated 020702)
         (c) 2002 JPO & JAPIO
File 350:Derwent WPIX 1963-2002/UD,UM &UP=200248
         (c) 2002  Thomson Derwent
File 371:French Patents 1961-2002/BOPI 200209
         (c) 2002 INPI.  All rts. reserv.

Set     Items   Description
S1      90040   ROBOT? ? OR ROBOTIC OR TOYROBOT? OR ROBOTTOY? OR ROBOTPET?
             OR PETROBOT? OR ANIMALROBOT? OR ROBOTANIMAL? OR AIBO OR ROBOT-
             DOG? OR DOGROBOT?
S2       4830   TELEOPERATOR? OR TELEOPERATER? OR TELE()(OPERATOR? OR OPER-
             ATER?) OR MECHATRONIC? OR SERVOMECHANISM? OR SERVO()MECHANISM?
              OR AUTOMATA OR AUTOMATON?
S3          6   AUTOMATED(1W)MECHANICAL()(DEVICE? OR MANIPULAT? OR APP?? OR
              APPARATUS? OR INSTRUMENT????? ? OR EQUIPMENT? OR INVENTION? -
             OR UNIT? ? OR ASSEMBL? OR APPLIANCE? OR SYSTEM? ?)
S4    3381170   PICKUP OR PICK???()UP OR RECOGNI? OR DETECT? OR FIND? OR F-
             OUND OR READ??? OR DISCRIMINAT? OR IDENTIF? OR SENS??? OR SCAN
              OR SCANS OR SCANNED OR SCANNING
S5     765213   (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(IM-
             AGE? OR INFORMATION OR DATA OR PRINT OR PRINTED OR 3D OR DIME-
             NSION? OR COLOR? OR COLOUR? OR PATTERN?)
S6     632588   (S4 OR RECEIV? OR REPOND? OR RESPONSE? OR RECEPT?)(2N)(BAR-
             COD? OR BAR()(CODE? ? OR CODING) OR SIGNAL??? OR UPC OR UPCS -
             OR SKU OR SKUS OR 2D OR STEREOSCOP?)
S7       1874   (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(ST-
             EREOGRA? OR HOLOGRA? OR CUBIC OR VOLUMETRIC OR MULTIDIMENSION-
             ?)
S8      11538   (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(UN-
             IVERSAL()PRODUCT OR IDENTIF? OR ID)()(CODE? ? OR CODING)
S9    3329826   TRANSMIT? OR TRANSMIS? OR SEND? OR SENT OR RECEIV? OR EMIT?
              OR EMIS? OR EMANAT?
S10    507536   S9(2N)(LIGHT OR PHOTIC? OR INFRARED? OR RADIA????? OR SOUN-
             D? ? OR SOUNDWAVE? OR AUDIO OR AUDIOWAVE? OR RADIOWAVE? OR MA-
             GNETICWAVE? OR MAGNETIC)
S11     64896   S10(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENSITIV?
             OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL?-
             ???  OR WAVE? ? OR SONIC? ?)
S12   5634705   RANGE? OR BEAR??? OR DISTAN? OR DIRECTION? OR LOCAT? OR SI-
             TUAT?? OR PLACEMENT? OR EMPLAC? OR POSITION? ? OR VECTOR? OR -
             PLACED OR PATH OR COURSE
S13    741621   NAVIGAT? OR HEADING OR ORIENTATION OR ROUTE? OR ROUTING OR
             WAY
S14    251825   S12-S13(3N)(CALCULAT? OR MEASUR? OR COMPUT? OR GAUG? OR AS-
             SESS? OR ANALYS? OR ANALYT? OR ANALYZ? OR DETERMIN? OR DET? ?
             OR QUANTIF? OR DERIV?)
S15     40009   S12:S13(3N)(MENSUR? OR EVALUAT? OR FIGUR??? OR TABULAT? OR
             CALIBRAT? OR ESTIMAT? OR APPROXIMAT?)
S16      9492   S1:S3 AND S5:S8
S17      6414   S1:S3 AND S14:S15
S18    568660   S9(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENS? OR U-
             LTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL???? -
             OR WAVE? ? OR SONIC? ?)
S19      5647   S1:S3 AND (S10 OR S18)
S20   3028467   REGENERAT? OR REENERGI? OR RECHARG? OR BATTERY? OR BATTERI-
             ES OR CHARGE? ? OR CHARGING OR POWER OR ENERGY OR ELECTRICITY
             OR ELECTRICAL
S21     30863   (FUEL OR ELECTROCHEMICAL)()CELL? ?
S22      3278   (S16:S17 OR S19) AND S20:S21
S23     13171   IC='G05D-001/02':IC='G05D-001/02-000/B62D137:00'
S24      2817   IC='B25J-005/00'
S25      3811   IC='B25J-013/08'
S26        20   S22 AND S23 AND S24 AND S25
?t26/9/all

 26/9/1     (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
```

06898131 **Image available**
CHARGING SYSTEM FOR MOVING **ROBOT** , METHOD FOR SEARCHING FOR **CHARGING** STATION, MOVING **ROBOT** , CONNECTOR, AND ELECTRIC CONNECTION STRUCTURE

PUB. NO.: 2001-125641 [JP 2001125641 A]
PUBLISHED: May 11, 2001 (20010511)
INVENTOR(s): OSAWA HIROSHI
HOSONUMA NAOYASU
APPLICANT(s): SONY CORP
APPL. NO.: 11-308224 [JP 99308224]
FILED: October 29, 1999 (19991029)
INTL CLASS: **G05D-001/02** ; **B25J-005/00** ; **B25J-013/08**

ABSTRACT

PROBLEM TO BE SOLVED: To **charge** a moving **robot** , which is driven by a **battery** and freely moves in a work space without specifying its path, at a **charging** station.

SOLUTION: This system is provided with visual **identification data** which are arranged at a specific position of a **charging** station, an **image pickup** means which is mounted on a moving **robot** , an arithmetic means which **calculates** the **distance** and **direction** from the moving **robot** to the **charging** station according to a **picked - up image** , and a search means which makes the moving **robot** search for the **charging** station according to the calculation result of the arithmetic means. The moving **robot** is able to search for the **charging** station by tracing the visual **identification data** through a camera, so **charging** operation can be automated.

26/9/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO

05845589 **Image available**
VISUAL CORRECTING DEVICE OF UNMANNED MOVABLE BODY

PUB. NO.: 10-128689 [JP 10128689 A]
PUBLISHED: May 19, 1998 (19980519)
INVENTOR(s): OTANI MIKIO
APPLICANT(s): SHINKO ELECTRIC CO LTD [000205] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 09-159330 [JP 97159330]
FILED: June 03, 1997 (19970603)
INTL CLASS: [6] **B25J-013/08** ; **B25J-005/00** ; B25J-019/04; **G05D-001/02** ; G05D-003/12
JAPIO CLASS: 26.9 (TRANSPORTATION -- Other); 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**)
JAPIO KEYWORD: R012 (OPTICAL FIBERS); R098 (ELECTRONIC MATERIALS -- **Charge** Transfer Elements, CCD & BBD); R116 (ELECTRONIC MATERIALS -- **Light Emitting** Diodes, LED)

ABSTRACT

PROBLEM TO BE SOLVED: To precisely detect a counter mark by CCD camera without any influence of disturbance light by forming a counter mark in a plate to be detected in such a manner as to **emit light** , and forming the other part as, a light shielding part so that the counter mark clearly stands out as a light spot on the black background.

SOLUTION: A plate 2 to be detected is so constructed that a part as a background is formed as a black light shielding plate 3, and **light transmitting** parts are provided in the positions of plural counter marks to form counter marks 2a1-2a6 as light spots. The plate 2 to be detected is

installed on an object device fixed as a stop target of a mover such as an industrial **robot** or the like loaded with CCD camera. The arrangement interval and shape of a counter mark, and the shape, dimensions and its brightness of a light spot in the counter mark are suitably set corresponding to the space between the loading position of the CCD camera 1 and the plate 2 to be detected and the required correction accuracy to satisfy the function.

26/9/3 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO

05545841 **Image available**
STOP ATTITUDE CORRECTING DEVICE FOR MOVING BODY

PUB. NO.: 09-160641 [JP 9160641 A]
PUBLISHED: June 20, 1997 (19970620)
INVENTOR(s): OTANI MIKIO
APPLICANT(s): SHINKO ELECTRIC CO LTD [000205] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 07-345059 [JP 95345059]
FILED: December 08, 1995 (19951208)
INTL CLASS: [6] **G05D-001/02** ; **B25J-005/00** ; **B25J-013/08** ; G05D-003/12
JAPIO CLASS: 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 26.9 (TRANSPORTATION -- Other); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**)
JAPIO KEYWORD: R098 (ELECTRONIC MATERIALS -- **Charge** Transfer Elements, CCD & BBD); R116 (ELECTRONIC MATERIALS -- **Light Emitting** Diodes, LED)

ABSTRACT

PROBLEM TO BE SOLVED: To detect an alignment mark in constant lightness without being affected by optical disturbance.

SOLUTION: This device is equipped with a mark sheet body 4 consisting of a plane **light emission** body mounted on the reverse surface of a mark sheet having plural alignment marks provided at specific intervals and a CCD camera 1. The mark sheet body 4 is provided for a fixed device 13 as the stop target of the moving body 10 and the CCD camera 1 is provided at a specific position of the moving body 10; and the CCD camera 1 mounted on the moving body 10 detects an alignment mark on the mark sheet body 4 to correct the stop attitude of the moving body 10.

26/9/4 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO

05150823 **Image available**
TRAVEL DIRECTION CONTROL UNIT

PUB. NO.: 08-106323 [JP 8106323 A]
PUBLISHED: April 23, 1996 (19960423)
INVENTOR(s): ICHIJIMA SATOKO
APPLICANT(s): MATSUSHITA ELECTRIC IND CO LTD [000582] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 06-264421 [JP 94264421]
FILED: October 05, 1994 (19941005)
INTL CLASS: [6] **G05D-001/02** ; **B25J-005/00** ; **B25J-013/08** ; B25J-019/04; G06T-001/00; G06T-007/00; G06T-007/60
JAPIO CLASS: 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 26.9 (TRANSPORTATION -- Other); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**); 45.9 (INFORMATION PROCESSING -- Other
JAPIO KEYWORD: R098 (ELECTRONIC MATERIALS -- **Charge** Transfer Elements, CCD & BBD)

ABSTRACT

PURPOSE: To control the travel direction of a **robot** by accurately **detecting** a sign **pattern** even in a crowding and **calculating** an infinite **distance** point.

CONSTITUTION: The travel direction control unit which extracts straight lines from images inputted from image input devices 1 and 2 mounted on the **robot** and detects the infinite point from the extracted straight lines to control the travel direction of the **robot** is provided with a preprocessing means 7 which generates an edge image by performing a contrast normalizing process, a differential binarization process, and an isolation point process for the images and an infinite distance point detecting means 8 which detects the infinite distance point by extracting the straight lines from the edge information through Hough transformation. After the contrast correction and noise removal of the input images, the edge image is generated, the straight lines are extracted from the edge image through the Hough transformation which is tolerant of noises and obstacles, and the infinite-distance point that the straight lines cross each other. Even in a crowding in the concourse of a station, the joints of the floor surface are extracted as straight lines and the infinite-distance point is detected to control the travel direction of the **robot** .

26/9/5 (Item 5 from file: 347)

DIALOG(R)File 347:JAPIO

05140138 **Image available**

TRAVEL CONTROLLER FOR MOBILE WORKING **ROBOT**

PUB. NO.: 08-095638 [JP 8095638 A]
PUBLISHED: April 12, 1996 (19960412)
INVENTOR(s): FUJIWARA YOSHIMORI
NAKAJIMA NARIAKI
TAKAHASHI HIDEYUKI
APPLICANT(s): EAST JAPAN RAILWAY CO [491190] (A Japanese Company or Corporation), JP (Japan)
TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 06-232712 [JP 94232712]
FILED: September 28, 1994 (19940928)
INTL CLASS: [6] **G05D-001/02** ; A47L-011/00; **B25J-005/00** ; **B25J-013/08**
JAPIO CLASS: 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 26.9 (TRANSPORTATION -- Other); 28.1 (SANITATION -- Sanitary Equipment); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**)

ABSTRACT

PURPOSE: To make a **robot** stably travel over a long distance by correcting shift of reference angle of an angle detection device obtained from the **detection data** within a range where a distance detection device can detect with the angle detection device in a traveling mode of the **robot** .

CONSTITUTION: A controller 4 consists of a velocity command arithmetic unit 41 and a reference angle correction device 42. The unit 41 **calculates** the **distance** between a mobile working **robot** main body 1 and a wall and also the tilt of the body 1 against the wall and outputs the velocity commands to the drive devices 5 and 6. The device 42 corrects the reference angle of a gyro sensor 3 every time the traveled distances detected by the right and left encoders 9 and 10 connected to a rotary shaft of the wheels 71 and 72 which detect the traveled distances of the body 1 reach a fixed value. Then, the device 42 inputs the corrected reference angle to the device 41. The reference angle of the sensor 3 becomes 0 when a **power** supply is applied to the sensor 3 and then corrected every time the traveled distance of the body 1 reaches the fixed value.

26/9/6 (Item 6 from file: 347)

DIALOG(R)File 347:JAPIO
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04899155 **Image available**
CONNECTING METHOD FOR TRAVELING **ROBOT** TO **BATTERY CHARGER**

PUB. NO.: 07-191755 [JP 7191755 A]
PUBLISHED: July 28, 1995 (19950728)
INVENTOR(s): SUYAMA KIICHI
NAKAYA KOJI
APPLICANT(s): HITACHI ZOSEN CORP [000511] (A Japanese Company or Corporation), JP (Japan)
TOKYO GAS CO LTD [330195] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 05-347696 [JP 93347696]
FILED: December 25, 1993 (19931225)
INTL CLASS: [6] **G05D-001/02** ; **B25J-005/00** ; **B25J-013/08** ; H04N-007/18
JAPIO CLASS: 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 26.9 (TRANSPORTATION -- Other); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**); 44.6 (COMMUNICATION -- Television
JAPIO KEYWORD: R116 (ELECTRONIC MATERIALS -- **Light Emitting** Diodes, LED)

ABSTRACT

PURPOSE: To automatically and correctly connect a **robot** to a **battery charger** .

CONSTITUTION: This method is provided with a first index 4 installed to the **battery charger** 1, a second index 5 installed behind and over the first index 4, a moving **robot** 6 **charged** by being connected to the front of the **battery charger** 1 in freely attachably and detachably and a television camera 11 provided for the **robot** 6 for the **image pickup** of both indexes 4 and 5. Then, the picture coordinates of both indexes 4 and 5 by means of the video camera 11 in the state where the **robot** 6 is connected to the **battery charger** 1 are set to be their respective connection coordinates and the picture coordinates of both indexes 4 and 5 at the front position of the **battery charger** 1 of the **robot** 6 are set to be their respective position coordinates. Then, the advance angle and the momentum of the **robot** 6 to the **battery charger** 1 are obtained by both connection coordinates and both position coordinates to confirm that the angle and the position of the **robot** 6 is within the range connectable to the **battery charger** 1 and after then, the **robot** 6 is connected to the **battery charger** 1.

26/9/7 (Item 7 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2002 JPO & JAPIO. All rts. reserv.

04439542 **Image available**
TRAVELING **ROBOT**

PUB. NO.: 06-083442 [JP 6083442 A]
PUBLISHED: March 25, 1994 (19940325)
INVENTOR(s): YAMAGAMI YOSHINARI
APPLICANT(s): SANYO ELECTRIC CO LTD [000188] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 04-237062 [JP 92237062]
FILED: September 04, 1992 (19920904)
INTL CLASS: [5] **G05D-001/02** ; **B25J-005/00** ; **B25J-013/08** ; G01B-011/24; G06F-015/62
JAPIO CLASS: 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 26.9 (TRANSPORTATION -- Other); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**); 45.4 (INFORMATION PROCESSING -- Computer Applications); 46.1 (INSTRUMENTATION -- Measurement
JAPIO KEYWORD: R002 (LASERS); R098 (ELECTRONIC MATERIALS -- **Charge** Transfer Elements, CCD & BBD); R131 (INFORMATION PROCESSING

JOURNAL: -- Microcomputers & Microprocessers
Section: P, Section No. 1761, Vol. 18, No. 343, Pg. 68, June 28, 1994 (19940628)

ABSTRACT

PURPOSE: To provide the traveling **robot** which detects an obstacle by a light cutting method by improving the precision of the obstacle detection and speeding up processing.

CONSTITUTION: This **robot** has a **light emitting** means 4 which irradiates an obstacle in the traveling direction of the **robot** with a slit-shaped visible light beam, an **image pickup** means 5 which is arranged at a specific distance from the **light emitting** means 4 and **picks up** an **image** of the obstacle surface, an image memory 22 which stores an image signal from the **image pickup** means 5, and a three-dimensional coordinate calculating means 24 which calculates three-dimensional coordinate data on the light cutting line of the visible light beam formed on the obstacle surface based on image signals, stored in the image memory 22, at the time of the irradiation with the visible light beam and nonirradiation. Further, the traveling **robot** is equipped with an obstacle information storage part 25 which stores the three-dimensional coordinate data and a travel control part 26 which controls the traveling of the traveling **robot** based on the three-dimensional coordinate data stored in the obstacle information storage part 25.

26/9/8 (Item 8 from file: 347)
DIALOG(R)File 347:JAPIO

04089142 **Image available**
CONTROL METHOD FOR MOVING **ROBOT**

PUB. NO.: 05-080842 [JP 5080842 A]
PUBLISHED: April 02, 1993 (19930402)

INVENTOR(s): NAKAI YUTAKA
APPLICANT(s): SHINKO ELECTRIC CO LTD [000205] (A Japanese Company or Corporation), JP (Japan)

APPL. NO.: 03-106110 [JP 91106110]
FILED: May 10, 1991 (19910510)
INTL CLASS: [5] **G05D-001/02** ; **B25J-005/00** ; B25J-009/10; **B25J-013/08** ; B25J-019/04; G05B-019/19; G05B-019/18
JAPIO CLASS: 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 26.9 (TRANSPORTATION -- Other); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**)
JAPIO KEYWORD: R098 (ELECTRONIC MATERIALS -- **Charge** Transfer Elements, CCD & BBD)
JOURNAL: Section: P, Section No. 1585, Vol. 17, No. 419, Pg. 33, August 04, 1993 (19930804)

ABSTRACT

PURPOSE: To control the position of a manipulator according to an input mark image and a previously instructed mark image by controlling the operation of the manipulator so as to input a complete mark when an image of an incomplete mark is inputted.

CONSTITUTION: An unmanned carriage 1 travels among plural workbenches 7 to perform operation. Prior to the operation, a read of the mark 8 is instructed. Namely, an image input device 4 is moved to right above the mark 8, whose position is instructed. Consequently, image data on the mark 8 is inputted through an image input device 4 and sent to an **image recognition** device 14. The center coordinates of the mark 8 are found. If, however, part of the mark 8 deviates from a visual field, a **robot** arm controller 13 sends out a request for the mark center coordinates to the **image recognition** device 14. The center coordinates of the mark 8 are found according to the difference between the whole image of the mark 8 which is previously stored and the **recognized image** and sent to the **robot** arm controller 13.

26/9/9 (Item 9 from file: 347)
DIALOG(R)File 347:JAPIO

04036139 **Image available**
MOBILE **ROBOT**

PUB. NO.: 05-027839 [JP 5027839 A]
PUBLISHED: February 05, 1993 (19930205)
INVENTOR(s): INUI HIROFUMI
TERAI HARUO
KOBAYASHI YASUMICHI
YABUUCHI HIDETAKA
EGUCHI OSAMU
TAKAGI YOSHIFUMI
APPLICANT(s): MATSUSHITA ELECTRIC IND CO LTD [000582] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 03-179500 [JP 91179500]
FILED: July 19, 1991 (19910719)
INTL CLASS: [5] **G05D-001/02** ; A47L-005/28; B60K-001/04; B60R-016/04; **B25J-005/00** ; B25J-009/10; **B25J-013/08**
JAPIO CLASS: 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 26.2 (TRANSPORTATION -- Motor Vehicles); 26.9 (TRANSPORTATION -- Other); 28.1 (SANITATION -- Sanitary Equipment); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**)
JOURNAL: Section: P, Section No. 1555, Vol. 17, No. 308, Pg. 70, June 11, 1993 (19930611)

ABSTRACT

PURPOSE: To obtain a mobile **robot** where the built-in **battery** can be automatically **charged** and at the same time the overcharge of the **battery** can be prevented.

CONSTITUTION: A state sensor means 1 detects a fact that a **robot** main body 5 returned to a station 6, and a **charging** field generator means 11 generates an induction field to **charge** a **battery** 7. Then a **charge** control means 9 supplies the **power** to the **battery** 7 through the **charging** induction field. Thus the **battery** 7 is **charged** . Meanwhile a timer means 13 counts its set time with the **signal received** from the means 12 and stops the operation of the means 11. Then the **charging** of the **battery** 7 is complete and the overcharge of the **battery** 7 can be prevented.

26/9/10 (Item 10 from file: 347)
DIALOG(R)File 347:JAPIO

04031564 **Image available**
MOBILE **ROBOT**

PUB. NO.: 05-023264 [JP 5023264 A]
PUBLISHED: February 02, 1993 (19930202)
INVENTOR(s): INUI HIROFUMI
TERAI HARUO
KOBAYASHI YASUMICHI
YABUUCHI HIDETAKA
EGUCHI OSAMU
TAKAGI YOSHIFUMI
APPLICANT(s): MATSUSHITA ELECTRIC IND CO LTD [000582] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 03-179499 [JP 91179499]
FILED: July 19, 1991 (19910719)
INTL CLASS: [5] A47L-005/28; B25J-019/00; B60K-001/04; **G05D-001/02** ; **B25J-005/00** ; B25J-009/10; **B25J-013/08**

JAPIO CLASS: 28.1 (SANITATION -- Sanitary Equipment); 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 26.2 (TRANSPORTATION -- Motor Vehicles); 26.9 (TRANSPORTATION -- Other); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**)

JOURNAL: Section: C, Section No. 1068, Vol. 17, No. 297, Pg. 128, June 08, 1993 (19930608)

ABSTRACT

PURPOSE: To provide such a mobile **robot** that **batteries** in the **robot** main body can be automatically **charged** .

CONSTITUTION: A reception means 8 **receives signals** from an induction field generating means 11 for guiding a **robot** main body 5 into a station 6 and then the **robot** main body 5 returns to the station 6. A state detection means 12 detects returning of the **robot** main body 5 to the station 6 and then a **charging** magnetic field generating means 10 generates an induction field for **charging** a **battery** 7. The **charging** induction field makes a **charge** control means 9 supply **power** to the **battery** 7 whereby the **battery** 7 can be **charged** .

26/9/11 (Item 11 from file: 347)

02962909 **Image available**

TRAVEL CONTROLLER

PUB. NO.: 01-260509 [JP 1260509 A]
PUBLISHED: October 17, 1989 (19891017)
INVENTOR(s): ABE YASU
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 63-088198 [JP 8888198]
FILED: April 12, 1988 (19880412)
INTL CLASS: [4] **G05D-001/02** ; **B25J-005/00** ; **B25J-013/08** ; G05D-003/12
JAPIO CLASS: 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 23.1 (ATOMIC **POWER** -- General); 26.9 (TRANSPORTATION -- Other); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**)
JOURNAL: Section: P, Section No. 988, Vol. 14, No. 11, Pg. 154, January 11, 1990 (19900111)

ABSTRACT

PURPOSE: To perform travel following an orbit even when it is the one whose dynamic characteristic is unknown by using a quantity of dislocation as an ambiguous value, and setting the experimental knowledge of the human as a control rule.

CONSTITUTION: The title device is provided with an image processing device 9 which digitizes information obtained from a camera 10 which photographs a targeted **path** and **calculates** the quantity of dislocation from the path, and the device infers a controlled variable from the quantity of dislocation by a CPU1, a ROM2, and a RAM3, and outputs it to an actuator 6 via an I/O interface 5. Here, visual information obtained from the camera 10 is constituted so that it can decide the manipulated variable of the steering angle of a traveling vehicle by a fuzzy inference. In other words, the quantity of dislocation is handled as an ambiguous quantity, and the experimental knowledge of the human is used as the control rule. In such a way, it is possible to perform the travel following the orbit even when it is the one whose dynamic characteristic is unknown.

26/9/12 (Item 12 from file: 347)

02115614 **Image available**
DIRECTION CONTROL METHOD FOR TRAVELLING **ROBOT**

PUB. NO.: 62-032514 [JP 62032514 A]
PUBLISHED: February 12, 1987 (19870212)
INVENTOR(s): TSUMURA KAZUHIRO
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 60-171183 [JP 85171183]
FILED: August 05, 1985 (19850805)
INTL CLASS: [4] **G05D-001/02** ; **B25J-005/00** ; **B25J-013/08**
JAPIO CLASS: 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 23.1 (ATOMIC **POWER** -- General); 26.9 (TRANSPORTATION -- Other); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**)
JOURNAL: Section: P, Section No. 594, Vol. 11, No. 211, Pg. 117, July 09, 1987 (19870709)

ABSTRACT

PURPOSE: To obtain a travelling **robot** having a large degree of freedom by installing plural fixed stations for **receiving** an **ultrasonic signal** of a specified frequency from the travelling **robot** , and also transmitting an encoded optical **signal** as a **response signal** in **response** to this ultrasonic signal, in a travelling area.

CONSTITUTION: A position detector 13 consists of an **ultrasonic transmitter** 24 for **transmitting** an **ultrasonic** pulse of a prescribed frequency and a photodetecting sensor 25 for photodetecting an optical pulse from a fixed station 3, and the **ultrasonic transmitter** 24 outputs an an ultrasonic pulse of a frequency f(sub 0) by a trigger signal from an ultrasonic oscillating circuit 26. When an encoded optical pulse has been photodetected, a time counting counter 27 generates an interruption to an MPU 20, and supplies a data of (n) bits and a counting value (response time T) to the MPU 20. The ultrasonic pulse which has been **received** by an **ultrasonic receiver** 31 of the fixed station 3 is brought to a frequency selection by a filter 33 having a frequency band of f(sub 0), and thereafter, converted to a pulse by a waveform shaping circuit 34.

26/9/13 (Item 13 from file: 347)
DIALOG(R)File 347:JAPIO

01739620 **Image available**
ROBOT

PUB. NO.: 60-218120 [JP 60218120 A]
PUBLISHED: October 31, 1985 (19851031)
INVENTOR(s): SENBON HIROYUKI
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 59-073975 [JP 8473975]
FILED: April 13, 1984 (19840413)
INTL CLASS: [4] **G05D-001/02** ; **B25J-005/00** ; **B25J-013/08**
JAPIO CLASS: 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 26.9 (TRANSPORTATION -- Other); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**)
JOURNAL: Section: P, Section No. 441, Vol. 10, No. 80, Pg. 133, March 29, 1986 (19860329)

ABSTRACT

PURPOSE: To detect abnormality within a fixed range precisely by sensing the generation of the abnormality from sound.

CONSTITUTION: A control part in a **robot** converts an acoustic signal from an acoustic input part 1 detecting its peripheral sound over the whole bearings into a feature parameter sequence by an acoustic analysis part 2. A recognizing part 2 compares the converted feature parameter sequence with a feature parameter registered in a pattern memory part 4 to detect the

generation of an abnormal sound. The **detected signal** is inputted to an output part and an abnormality generation **signal** is **sent** to a centralized control room through radio waves or the like. The **robot** is provided with the television camera 6 to input a mark or the like as picture information, inputs the informations to a current position recognizing part 7 and detects the position of the **robot** itself. When the abnormality generation **signal** from said **recognizing** part 3 is inputted to a moving course deciding part 8, the bearing to move the **robot** is determined and the **robot** is driven by a **power** part 9 to move the **robot** to the abnormality generation position.

26/9/14 (Item 14 from file: 347)
DIALOG(R)File 347:JAPIO

01735511 **Image available**
RUNNING CAR

PUB. NO.: 60-214011 [JP 60214011 A]
PUBLISHED: October 26, 1985 (19851026)
INVENTOR(s): HOZUMI HISASHI
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 59-069097 [JP 8469097]
FILED: April 09, 1984 (19840409)
INTL CLASS: [4] **G05D-001/02 ; B25J-005/00 ; B25J-013/08**
JAPIO CLASS: 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 26.9 (TRANSPORTATION -- Other); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**)
JAPIO KEYWORD:R116 (ELECTRONIC MATERIALS -- **Light Emitting** Diodes, LED)
JOURNAL: Section: P, Section No. 439, Vol. 10, No. 74, Pg. 158, March 25, 1986 (19860325)

ABSTRACT

PURPOSE: To make a run on staircase with simple constitution by switching connections of a **battery** and generating high torque by a driving motor when a detector detects the staircase, etc.

CONSTITUTION: The running car 1 is provided with crawlers 2 which allow a run on a staircase, etc., and the detector 3 which detects the staircase 40, etc., and also has a steering mechanism, running mechanism, and a controller 30 to make a programmed run on a run path such as a floor surface 4. Further, a **battery** 35 which is used normally is connected to one terminal of a driving circuit 31, a switch device 36 is connected to one terminal of the **battery** 35, and an auxiliary **battery** 37 is connected to the switch device 36. The switch 36 is operated with the output signal of the controller 30. Then when the detector 3 of the running car 1 detects the staircase 40, the controller 30 makes the contact of the switch 36a the switch device 36 to connect the auxiliary **battery** 37 to the **battery** 35 in series, and impresses an overvoltage to the driving motor 32 to obtain high torque.

26/9/15 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013943684 **Image available**
WPI Acc No: 2001-427897/200146
XRPX Acc No: N01-317423
Charging **system for mobile** robot , **has search unit which searches mobile** robot **towards** charging **station, based on** calculated distance **between mobile** robot **and** charging **station**
Patent Assignee: SONY CORP (SONY)
Number of Countries: 003 Number of Patents: 003
Patent Family:
Patent No Kind Date Applicat No Kind Date Week

JP 2001125641	A	20010511	JP 99308224	A	19991029	200146	B
CN 1299083	A	20010613	CN 2000136861	A	20001029	200158	
KR 2001051322	A	20010625	KR 200063771	A	20001028	200172	

Priority Applications (No Type Date): JP 99308224 A 19991029
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2001125641	A		27	G05D-001/02	
CN 1299083	A			G05D-001/02	
KR 2001051322	A			G05D-001/02	

Abstract (Basic): JP 2001125641 A

NOVELTY - CCD camera mounted on mobile **robot** (1) photographs visibility **identification data** in the predetermined portion of **charging** station (80). A **calculator computes** the **distance** between mobile **robot** and **charging** station, based on **image picked up** by CCD camera. Based on **calculated distance** , search unit searches mobile **robot** towards the **charging** station.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) **Charging** station searching method;

(b) Mobile **robot** ;

(c) Connector;

(d) Electric connection structure

USE - For mobile **robot** with leg type or crawl type movements.

ADVANTAGE - The mobile **robot** performs autonomous drive with **charging** type **battery** and moves in working space freely in a route by **battery** drive, as the **charging** station **charges** the mobile **robot** .

DESCRIPTION OF DRAWING(S) - The figure shows the diagram of mobile **robot** and **charging** station. (Drawing includes non-English language text).

Mobile **robot** (1)

Charging station (80)

pp; 27 DwgNo 13/39

Title Terms: **CHARGE** ; SYSTEM; MOBILE; **ROBOT** ; SEARCH; UNIT; SEARCH; MOBILE; **ROBOT** ; **CHARGE** ; STATION; BASED; CALCULATE; DISTANCE; MOBILE; **ROBOT** ; **CHARGE** ; STATION

Derwent Class: P62; T01; T06

International Patent Class (Main): **G05D-001/02**

International Patent Class (Additional): **B25J-005/00** ; **B25J-013/08**

File Segment: EPI; EngPI

Manual Codes (EPI/S-X): T01-J07B; T01-J10A; T01-J10B2; T06-B01A

26/9/16 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX

012453150 **Image available**

WPI Acc No: 1999-259258/199922

XRPX Acc No: N99-193385

Mobile robot **used in the wafer process of a semiconductor in a clean room - has motor which is controlled by rotation calculating unit to rotate deflection optical filter that adjusts deflection quantity of incidence light to CCD camera**

Patent Assignee: SHINKO ELECTRIC CO LTD (SHIA)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 11077562	A	19990323	JP 97245793	A	19970910	199922	B

Priority Applications (No Type Date): JP 97245793 A 19970910

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 11077562	A		8	B25J-005/00	

Abstract (Basic): JP 11077562 A

NOVELTY - A motor (7) controlled by a rotation calculating unit (8)

rotates a deflection optical filter (6) that adjusts the deflection quantity of an incidence light to a **charge** -coupled device (CCD) camera (5). DETAILED DESCRIPTION - The camera **reads** the **pattern** **data** of a vision mark. A luminance meter measures the brightness of each portion of the vision mark. A brightness difference calculating unit (8) computes for the difference of the brightness data of each portion of the vision mark. The difference of the brightness data is determined whether it is within a tolerance.

USE - Used in the wafer process of a semiconductor in a clean room.

ADVANTAGE - Suppresses **data** **reading** error since the brightness different during the **reading** of the **pattern** data by the camera is made small by using the deflection optical filter. Obtains the exact vision correction. DESCRIPTION OF DRAWING(S) - The figure shows the schematic diagram of the mobile **robot** . (5) CCD camera; (6) Deflection optical filter; (7) Motor; (8) Brightness difference calculating unit; (8) Rotation calculating unit.

Dwg.1/6

Title Terms: MOBILE; **ROBOT** ; WAFER; PROCESS; SEMICONDUCTOR; CLEAN; ROOM; MOTOR; CONTROL; ROTATING; CALCULATE; UNIT; ROTATING; DEFLECT; OPTICAL; FILTER; ADJUST; DEFLECT; QUANTITY; INCIDENCE; LIGHT; CCD; CAMERA

Derwent Class: P62; T06; U11; X25

International Patent Class (Main): **B25J-005/00**

International Patent Class (Additional): **B25J-013/08** ; **G05D-001/02**

File Segment: EPI; EngPI

Manual Codes (EPI/S-X): T06-B01A; T06-D08F; U11-C15B1; U11-F02A1; X25-F05A

26/9/17 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

011924983 **Image available**

WPI Acc No: 1998-341893/199830

XRPX Acc No: N98-267852

Vision correction apparatus for industrial robot **- has** light emitters **provided on back surface of detection board to irradiate lights through open holes formed with shapes that correspond to notch marks formed on detection board surface opposite CCD camera**

Patent Assignee: SHINKO ELECTRIC CO LTD (SHIA)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 10128689	A	19980519	JP 97159330	A	19970603	199830	B

Priority Applications (No Type Date): JP 96252196 A 19960904

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 10128689	A		10	B25J-013/08	

Abstract (Basic): JP 10128689 A

The apparatus has a CCD camera (1) attached to the arm of a **robot** . A detection board (2) has predetermined notch marks (2a1-2a6) formed on a surface opposite the CCD camera. The CCD camera photographs the surface of the detection board on which predetermined notch marks are formed to detect the position of the **robot** arm.

The detection board has a shading board (3) with several open holes (3a1-3a6) whose shapes correspond to the notch marks. Several **light** **emitters** are provided at the back side of the detection board to irradiate lights through the open holes.

ADVANTAGE - Enables exact detection of notch mark as light spot in black material by CCD camera. Prevents notch mark from causing dispersion in position correction during stoppage of industrial **robot** . Inexpensive since detection board has simple structure and to which only necessary number of **light** **emitters** corresponding to number of notch marks are provided. Improves transferring of goods by **robot** arm since position error or position deviation of **robot** can be corrected.

Dwg.1/11

Title Terms: VISION; CORRECT; APPARATUS; INDUSTRIAL; **ROBOT** ; LIGHT;

EMITTER; BACK; SURFACE; DETECT; BOARD; IRRADIATE; LIGHT; THROUGH; OPEN; HOLE; FORMING; SHAPE; CORRESPOND; NOTCH; MARK; FORMING; DETECT; BOARD; SURFACE; OPPOSED; CCD; CAMERA
Index Terms/Additional Words: CHARGE-COUPLED; DEVICE
Derwent Class: P62; T06; X25
International Patent Class (Main): **B25J-013/08**
International Patent Class (Additional): **B25J-005/00** ; B25J-019/04; **G05D-001/02** ; G05D-003/12
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): T06-B01A; T06-B02B; T06-D08F; X25-F05A

26/9/18 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010759580 **Image available**
WPI Acc No: 1996-256535/199626
XRPX Acc No: N96-215689
Direction controller for controlling advance direction of autonomous movable robot **- has sensor detecting infinite apoapsis and extracting straight line from edge image using strong transformation**
Patent Assignee: MATSUSHITA DENKI SANGYO KK (MATU)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 8106323	A	19960423	JP 94264421	A	19941005	199626	B

Priority Applications (No Type Date): JP 94264421 A 19941005
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 8106323	A		9	G05D-001/02	

Abstract (Basic): JP 8106323 A
The controller has a lens (1) mounted to a **charge** coupled device camera (2) where an image is input. A preprocessor (7) performs the normalisation processing of a contrast, an isolated point removal processing to the image forming an edge image.
A sensor (8) detects an infinite apoapsis and extracts a straight line from the edge image using a strong transformation.
ADVANTAGE - Exactly **detects** sign **pattern** even in crowded state. Computes infinite apoapsis and controls **robot** direction.
Dwg.1/15
Title Terms: DIRECTION; CONTROL; CONTROL; ADVANCE; DIRECTION; AUTONOMOUS; MOVE; **ROBOT** ; SENSE; DETECT; INFINITE; EXTRACT; STRAIGHT; LINE; EDGE; IMAGE; STRONG; TRANSFORM
Derwent Class: P62; T01; T06; X25
International Patent Class (Main): **G05D-001/02**
International Patent Class (Additional): **B25J-005/00** ; **B25J-013/08** ; B25J-019/04; G06T-001/00; G06T-007/00; G06T-007/60
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): T01-J07B; T01-J10B2; T06-B01A; T06-D08F; X25-F05A

26/9/19 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010409661 **Image available**
WPI Acc No: 1995-311008/199540
XRPX Acc No: N95-234842
Self propelled mobile robot **for traversing preset route - uses** infrared transmissions **to control progress of** robot **to predetermined target area while performing routine tasks ie. cleaning, monitoring**
Patent Assignee: SAMSUNG ELECTRONICS CO LTD (SMSU)
Inventor: KIM S
Number of Countries: 003 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5446356	A	19950829	US 94301395	A	19940908	199540	B
JP 7200060	A	19950804	JP 94216347	A	19940909	199540	
KR 161031	B1	19981215	KR 9318152	A	19930909	200034	

Priority Applications (No Type Date): KR 9318152 A 19930909
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5446356	A		12	H02J-007/00	
JP 7200060	A		10	G05D-001/02	
KR 161031	B1			B25J-009/10	

Abstract (Basic): US 5446356 A

The self propelled **robot** has an **infrared receiving** and **transmitting** unit to constantly monitor its position. Position error data generated during the travel of the **robot** can be corrected by predetermined position coordinate data and a distance detecting unit for detecting the distance from the correct position. Any error is outputted to the control unit and the position of the **robot** is then corrected. **Battery power** consumption needed for position error correction is reduced by utilising position error data only when the **signal** is **received** from the **robot** .

USE/ADVANTAGE- Has simple structure and can be easily installed.

Dwg.1/7

Title Terms: SELF; PROPEL; MOBILE; **ROBOT** ; TRAVERSE; PRESET; ROUTE; INFRARED; TRANSMISSION; CONTROL; PROGRESS; **ROBOT** ; PREDETERMINED; TARGET ; AREA; PERFORMANCE; ROUTINE; TASK; CLEAN; MONITOR
Derwent Class: P62; T06; X25
International Patent Class (Main): B25J-009/10; **G05D-001/02** ; H02J-007/00
International Patent Class (Additional): **B25J-005/00** ; B25J-013/00; **B25J-013/08** ; H04Q-009/00; H04Q-009/14
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): T06-B01A; T06-D08F; X25-F05A; X25-H09

26/9/20 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009932743 **Image available**
WPI Acc No: 1994-200454/199424
XRPX Acc No: N94-157612

Remotely controlled micro- robot **with storage case capable of** charging robot **during storage - comprises at least two photosensors having detection regions partially overlapping with each other, and control unit including CPU which controls driving portions**

Patent Assignee: SEIKO EPSON CORP (SHIH)
Inventor: MIYAZAWA O
Number of Countries: 022 Number of Patents: 013
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9412918	A1	19940609	WO 93JP1654	A	19931112	199424	B
JP 6164157	A	19940610	JP 92312063	A	19921120	199428	
EP 623861	A1	19941109	EP 93924815	A	19931112	199443	
			WO 93JP1654	A	19931112		
TW 261563	A	19951101	TW 93109555	A	19931116	199603	
EP 623861	A4	19950726	EP 93924815	A		199617	
US 5576605	A	19961119	WO 93JP1654	A	19931112	199701	
			US 94256605	A	19940714		
CN 1096888	A	19941228	CN 93121433	A	19931120	199719	
JP 10003314	A	19980106	JP 92329385	A	19921209	199811	
			JP 9774299	A	19921209		
EP 623861	B1	19980304	EP 93924815	A	19931112	199813	
			WO 93JP1654	A	19931112		
DE 69317264	E	19980409	DE 617264	A	19931112	199820	
			EP 93924815	A	19931112		
			WO 93JP1654	A	19931112		
JP 3024406	B2	20000321	JP 92329385	A	19921209	200019	

JP 2000071200	A	20000307	JP 92329385	A	19921209	200023
			JP 99248591	A	19921209	
JP 3277919	B	20020422	JP 92329385	A	19921209	200234
			JP 99248591	A	19921209	

Priority Applications (No Type Date): JP 92329385 A 19921209; JP 92312063 A 19921120; JP 9774299 A 19921209; JP 99248591 A 19921209
Cited Patents: EP 51996; JP 2044255; JP 2134593; JP 3068276; JP 3070015; JP 63007706; 1.Jnl.Ref; GB 2166315; US 4777416; US 5045759
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9412918	A1	J	70	G05D-001/02	
Designated States (National): KR US					
Designated States (Regional): AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
JP 6164157	A		9	H05K-005/02	
EP 623861	A1	E	42		Based on patent WO 9412918
Designated States (Regional): CH DE FR GB LI					
TW 261563	A			B25J-009/18	
US 5576605	A		38	B25J-005/00	Based on patent WO 9412918
CN 1096888	A			G05B-019/00	
JP 10003314	A		10	G05D-001/02	Div ex application JP 92329385
EP 623861	B1	E	42	G05D-001/02	Based on patent WO 9412918
Designated States (Regional): CH DE FR GB LI					
DE 69317264	E			G05D-001/02	Based on patent EP 623861
					Based on patent WO 9412918
JP 3024406	B2		14	B25J-013/08	Previous Publ. patent JP 6170770
JP 2000071200	A		13	B81B-007/02	Div ex application JP 92329385
JP 3277919	B		12	B25J-013/08	Div ex application JP 92329385
					Previous Publ. patent JP 2000071200

Abstract (Basic): WO 9412918 A

The micro- **robot** having a size of about 1 cm3 comprises at least two photosensors (12,14) and at least a pair of driving portions (28,30) driven mutually independently and having driving points spaced apart in a direction orthogonal to a moving direction. The control unit (58) including a CPU controls the driving portions on the basis of the output of the photosensors.

A **power** supply (16) has a chargeable **battery** and a voltage regulation circuit (56) for regulating the voltage of the **battery** to supply **power** to the photosensors, the driving portions and the control portion. A reset circuit (40) **sends** a reset **signal** to the control portion on receiving non-contactively an instruction from outside.

Dwg.4/45

Abstract (Equivalent): EP 623861 B

The micro- **robot** having a size of about 1 cm3 comprises at least two photosensors (12,14) and at least a pair of driving portions (28,30) driven mutually independently and having driving points spaced apart in a direction orthogonal to a moving direction. The control unit (58) including a CPU controls the driving portions on the basis of the output of the photosensors.

A **power** supply (16) has a chargeable **battery** and a voltage regulation circuit (56) for regulating the voltage of the **battery** to supply **power** to the photosensors, the driving portions and the control portion. A reset circuit (40) **sends** a reset **signal** to the control portion on receiving non-contactively an instruction from outside.

Dwg.1/45

Abstract (Equivalent): US 5576605 A

A micro **robot** comprising:

at least two sensor means each having a detection area partly overlapping each other, and generating an output in accordance with a detected quantity, at least one pair of wheel driving means adapted to be driven independently of each other;

a control means including a CPU for controlling said wheel driving means in accordance with the outputs of said sensor means;

a **power** supply unit including a **rechargeable** **battery** for

supplying a **power** supply voltage to said sensor means, said wheel driving means and said control means; and

a reset circuit responsive to reception of an external command in a non-contact manner to **send** a reset **signal** to said control means.

(Dwg.18/5

Title Terms: REMOTE; CONTROL; MICRO; **ROBOT** ; STORAGE; CASE; CAPABLE; **CHARGE** ; **ROBOT** ; STORAGE; COMPRISE; TWO; PHOTOSENSOR; DETECT; REGION; OVERLAP; CONTROL; UNIT; CPU; CONTROL; DRIVE; PORTION

Derwent Class: P62; Q68; T06; V04; X25

International Patent Class (Main): **B25J-005/00** ; B25J-009/18; **B25J-013/08** ; B81B-007/02; G05B-019/00; **G05D-001/02** ; H05K-005/02

International Patent Class (Additional): B25J-007/00; B25J-009/16; B25J-013/04; B25J-019/00; G05B-011/28; H02J-007/00

File Segment: EPI; EngPI

Manual Codes (EPI/S-X): T06-D07B; V04-S09; X25-A03E; X25-A03F

?

Set	Items	Description
S1	90040	ROBOT? ? OR ROBOTIC OR TOYROBOT? OR ROBOTTOY? OR ROBOTPET? OR PETROBOT? OR ANIMALROBOT? OR ROBOTANIMAL? OR AIBO OR ROBOTDOG? OR DOGROBOT?
S2	4830	TELEOPERATOR? OR TELEOPERATER? OR TELE()(OPERATOR? OR OPERATER?) OR MECHATRONIC? OR SERVOMECHANISM? OR SERVO()MECHANISM? OR AUTOMATA OR AUTOMATON?
S3	6	AUTOMATED(1W)MECHANICAL()(DEVICE? OR MANIPULAT? OR APP?? OR APPARATUS? OR INSTRUMENT????? ? OR EQUIPMENT? OR INVENTION? OR UNIT? ? OR ASSEMBL? OR APPLIANCE? OR SYSTEM? ?)
S4	3381170	PICKUP OR PICK???()UP OR RECOGNI? OR DETECT? OR FIND? OR FOUND OR READ??? OR DISCRIMINAT? OR IDENTIF? OR SENS??? OR SCAN OR SCANS OR SCANNED OR SCANNING
S5	765213	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(IMAGE? OR INFORMATION OR DATA OR PRINT OR PRINTED OR 3D OR DIMENSION? OR COLOR? OR COLOUR? OR PATTERN?)
S6	632588	(S4 OR RECEIV? OR REPOND? OR RESPONSE? OR RECEPT?)(2N)(BARCOD? OR BAR()(CODE? ? OR CODING) OR SIGNAL??? OR UPC OR UPCS OR SKU OR SKUS OR 2D OR STEREOSCOP?)
S7	1874	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(STEREOGRA? OR HOLOGRA? OR CUBIC OR VOLUMETRIC OR MULTIDIMENSION?)
S8	11538	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(UNIVERSAL()PRODUCT OR IDENTIF? OR ID)()(CODE? ? OR CODING)
S9	3329826	TRANSMIT? OR TRANSMIS? OR SEND? OR SENT OR RECEIV? OR EMIT? OR EMIS? OR EMANAT?
S10	507536	S9(2N)(LIGHT OR PHOTIC? OR INFRARED? OR RADIA????? OR SOUND? ? OR SOUNDWAVE? OR AUDIO OR AUDIOWAVE? OR RADIOWAVE? OR MAGNETICWAVE? OR MAGNETIC)
S11	64896	S10(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENSITIV? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL??? OR WAVE? ? OR SONIC? ?)
S12	5634705	RANGE? OR BEAR??? OR DISTAN? OR DIRECTION? OR LOCAT? OR SITUAT?? OR PLACEMENT? OR EMPLAC? OR POSITION? ? OR VECTOR? OR PLACED OR PATH OR COURSE
S13	741621	NAVIGAT? OR HEADING OR ORIENTATION OR ROUTE? OR ROUTING OR WAY
S14	251825	S12-S13(3N)(CALCULAT? OR MEASUR? OR COMPUT? OR GAUG? OR ASSESS? OR ANALYS? OR ANALYT? OR ANALYZ? OR DETERMIN? OR DET? ? OR QUANTIF? OR DERIV?)
S15	40009	S12:S13(3N)(MENSUR? OR EVALUAT? OR FIGUR??? OR TABULAT? OR CALIBRAT? OR ESTIMAT? OR APPROXIMAT?)
S16	9492	S1:S3 AND S5:S8
S17	6414	S1:S3 AND S14:S15
S18	568660	S9(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENS? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL???? OR WAVE? ? OR SONIC? ?)
S19	5647	S1:S3 AND (S10 OR S18)
S20	3028467	REGENERAT? OR REENERGI? OR RECHARG? OR BATTERY? OR BATTERIES OR CHARGE? ? OR CHARGING OR POWER OR ENERGY OR ELECTRICITY OR ELECTRICAL
S21	30863	(FUEL OR ELECTROCHEMICAL)()CELL? ?
S22	3278	(S16:S17 OR S19) AND S20:S21
S23	13171	IC='G05D-001/02':IC='G05D-001/02-000/B62D137:00'
S24	2817	IC='B25J-005/00'
S25	3811	IC='B25J-013/08'
S26	20	S22 AND S23 AND S24 AND S25
S27	5486	MC='W01-A07G'
S28	295659	IC=H04L?
S29	9135	MC='T01-J10A'
S30	3380	IC='G06T-001/60'
S31	17043	MC='T01-J10B2'
S32	23332	IC='G06T-007':IC='G06T-007/60'
S33	4205	MC='T06-B01A'
S34	13818	IC='G05D-001/02':IC='G05D-001/035'
S35	21	S22 AND S27:S28
S36	110	S22 AND S29:S32
S37	168	S22 AND S33:S34

S38 11 S37 AND S35:S36
S39 8 S38 NOT S26
?t39/9/all

39/9/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

05711232 **Image available**
VEHICLE PERIPHERAL THREE- **DIMENSIONAL** OBJECT **RECOGNIZING** DEVICE

PUB. NO.: 09-326032 [JP 9326032 A]
PUBLISHED: December 16, 1997 (19971216)
INVENTOR(s): SOGAWA TAKAYUKI
APPLICANT(s): FUJI HEAVY IND LTD [000534] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 08-144438 [JP 96144438]
FILED: June 06, 1996 (19960606)
INTL CLASS: [6] **G06T-007/00** ; G01B-011/00; G01C-003/06; G01C-021/00; **G05D-001/02** ; G08G-001/16
JAPIO CLASS: 45.9 (INFORMATION PROCESSING -- Other); 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 26.2 (TRANSPORTATION -- Motor Vehicles); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**); 37.2 (SAFETY -- Traffic); 44.9 (COMMUNICATION -- Other); 46.1 (INSTRUMENTATION -- Measurement
JAPIO KEYWORD: R002 (LASERS); R007 (ULTRASONIC WAVES); R098 (ELECTRONIC MATERIALS -- **Charge** Transfer Elements, CCD & BBD); R116 (ELECTRONIC MATERIALS -- **Light Emitting** Diodes, LED)

ABSTRACT

PROBLEM TO BE SOLVED: To provide a vehicle peripheral three- **dimensional** object **recognizing** device which is capable of **recognizing** a three-**dimensional** object in a wide range in the periphery of a vehicle.

SOLUTION: Three-dimensional distance distribution across the whole image is calculated from a pair of stereo **images picked up** by a stereo optical system 3 (3L and 3R) by a stereo image processing part 11, and a three-**dimensional** object **recognizing** part 12 **recognizes** the three-**dimensional** object from **distance** distribution information to **calculate** a relative **position** with the vehicle. In addition a steering angle sensor 4 and a rear wheel revolving speed sensor 5 detect the moving amount of the vehicle. A three-dimensional object positional **information recognizing** part 13 updates three-dimensional object positional information in the periphery of the vehicle stored in a storing part 14 last time based on relative positional information and the moving amount of the vehicle to calculate new three-dimensional object positional information in the periphery of the vehicle and outputs it to a contact judging and outputting part 20. The part 20 judges the possibility of the contact of the three- dimensional object and the vehicle from the external shape of its own vehicle stored in advance based on the three-dimensional object positional information in the periphery of the vehicle and outputs the result to a display part 7 (7FL, 7FR, 7IL, 7IR, 7S).

39/9/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO

04977918 **Image available**
DISTANCE MEASURING INSTRUMENT

PUB. NO.: 07-270518 [JP 7270518 A]
PUBLISHED: October 20, 1995 (19951020)
INVENTOR(s): TORII TETSUO
SAITO TAKEYUKI
NAKAMURA SOICHI
MATSUDA TOMOO
APPLICANT(s): KOMATSU LTD [000123] (A Japanese Company or Corporation), JP

(Japan)
APPL. NO.: 06-063254 [JP 9463254]
FILED: March 31, 1994 (19940331)
INTL CLASS: [6] G01S-005/16; G01C-003/06; **G05D-001/02** ; **G06T-007/00**
JAPIO CLASS: 44.9 (COMMUNICATION -- Other); 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**); 45.9 (INFORMATION PROCESSING -- Other); 46.1 (INSTRUMENTATION -- Measurement
JAPIO KEYWORD: R002 (LASERS); R098 (ELECTRONIC MATERIALS -- **Charge** Transfer Elements, CCD & BBD)

ABSTRACT

PURPOSE: To **measure** the **distance** quickly by comparing two **images** **picked up** simultaneously from the same one target object for only a partial picture element within a specific range in reference to spot light instead of the total picture elements of image.

CONSTITUTION: Spot light L with a brightness greater than external light is projected toward a target object 3. Then, by retrieving maximum brightness points PML and PMR from images 14 and 15 **picked up** by two **image pick - up** means 1 and 2, coordinate positions (XML, YML) and (XMR, YMR) on the images 14 and 15 of the projection points PML and PMR of the spot light L are obtained for each of the images 14 and 15 picked up by each of the **image pick - up** means 1 and 2. A partial image located within specific ranges Ar and A'r near the spot light projection points PML and PMR is extracted from the total images 14 and 15 which are picked up by each of the **image pick - up** means 1 and 2, the extracted partial images Ar and A'r are compared by image processing, and coordinate positions PL (XL, YL) and PR (XR, YR) on the images 14 and 15 of the target object 3 are obtained by each of the **image pick - up** means 1 and 2.

39/9/3 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO

04947114 **Image available**
SELF-GUIDANCE DEVICE FOR MOVING BODY

PUB. NO.: 07-239714 [JP 7239714 A]
PUBLISHED: September 12, 1995 (19950912)
INVENTOR(s): YUDA SHINICHI
OYA AKIHISA
KUROSU TAKASHI
APPLICANT(s): YUDA SHINICHI [000000] (An Individual), JP (Japan)
MAEDA CORP [330192] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 06-028571 [JP 9428571]
FILED: February 25, 1994 (19940225)
INTL CLASS: [6] **G05D-001/02** ; G06T-001/00; **G06T-007/20** ; H04N-007/18
JAPIO CLASS: 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**); 44.6 (COMMUNICATION -- Television); 45.9 (INFORMATION PROCESSING -- Other
JAPIO KEYWORD: R098 (ELECTRONIC MATERIALS -- **Charge** Transfer Elements, CCD & BBD); R101 (APPLIED ELECTRONICS -- Video Tape Recorders, VTR

ABSTRACT

PURPOSE: To provide a self-guidance device for moving body which requires the instruction neither by map information nor on a course and is applicable regardless of the travel distance is long or short.

CONSTITUTION: This device is equipped with an **image pickup** means 30 which is mounted on a moving body 20 and **picks up** an **image** of a direction specific to the travel direction of the moving body 20, an image reproducing means 40 which reproduces the **image** obtained by **picking up** the **image** of the direction specific to the travel direction in which the moving body 20 is going to move, and recording it, a detecting means 10

which inputs the **image picked up** by the **image pickup** means 30 and the image reproduced by the image reproducing means 20 and **detects information** regarding the position and direction from the difference between those images, and a control means 50 which controls a driving means 21 on the basis of the position and direction **information detected** by the **image** difference **detecting** means 10.

39/9/4 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO

04779378 **Image available**
ONE'S OWN POSITION RECOGNITION SYSTEM

PUB. NO.: 07-071978 [JP 7071978 A]
PUBLISHED: March 17, 1995 (19950317)
INVENTOR(s): MIHASHI KENJI
APPLICANT(s): SUZUKI MOTOR CORP [000208] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 05-247564 [JP 93247564]
FILED: September 03, 1993 (19930903)
INTL CLASS: [6] G01C-021/00; **G05D-001/02** ; **G06T-007/00** ; H04N-007/18
JAPIO CLASS: 46.1 (INSTRUMENTATION -- Measurement); 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**); 44.6 (COMMUNICATION -- Television); 45.9 (INFORMATION PROCESSING -- Other
JAPIO KEYWORD: R002 (LASERS); R098 (ELECTRONIC MATERIALS -- **Charge** Transfer Elements, CCD & BBD)

ABSTRACT

PURPOSE: To **determine** one's own **position** at a high speed even during movement by **computing** the current **position** in accordance with the results of computations by first and second target- **position computing** means.

CONSTITUTION: A first drive means 8 controls the directions of a first CCD camera 6 and a first laser pointer 7 in accordance with directions from a first target-position recognition means 1. A first target- **position computing** means 1 **computes** a first target **position** from the directions of the camera 6 and the laser pointer 7 at the time when the first target is caught. Further, a second drive means 11 controls the directions of a second CCD camera 9 and a second laser pointer 10 in accordance with directions from a second target-position recognition means 2. A second target- **position computing** means 4 **computes** a second target **position** from the directions of the camera 9 and the least pointer 10 when the second target is caught. A current- **position computing** means 5 **computes** the current **position** in accordance with the results of computations by the means 3 and 4.

39/9/5 (Item 5 from file: 347)
DIALOG(R)File 347:JAPIO

01660115 **Image available**
CALLING SYSTEM OF MOBILE **ROBOT**

PUB. NO.: 60-138615 [JP 60138615 A]
PUBLISHED: July 23, 1985 (19850723)
INVENTOR(s): MOTOJO YOSHIAKI
APPLICANT(s): CASIO COMPUT CO LTD [350750] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 58-246406 [JP 83246406]
FILED: December 27, 1983 (19831227)
INTL CLASS: [4] **G05D-001/02** ; B25J-013/00; **H04L-027/10**
JAPIO CLASS: 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY

-- Control & Regulation); 26.9 (TRANSPORTATION -- Other); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**); 44.3 (COMMUNICATION -- Telegraphy

JOURNAL: Section: P, Section No. 410, Vol. 09, No. 308, Pg. 21, December 04, 1985 (19851204)

ABSTRACT

PURPOSE: To attain assured calling of a mobile **robot** at any place without changing the layout of a plant by using an indoor AC **power** supply wiring to **transmit** the call **signal** of the **robot** .

CONSTITUTION: The map data on the paths, the relation of correspondence between the output code of each calling oscillator 1 and the mark position of the path, etc. are supplied to a RAM of a mobile **robot** 5. The **robot** 5 is usually waiting at a **charging** post where the **charging** is carried out for a **battery** from an indoor wiring 3. Under such conditions, a call switch 12 of the oscillator 1 is operated. Thus the code signal delivered from a code setting part 11 is decoded by a decoder 13 and sent to a PLL circuit 14. The circuit 14 delivers two types of FM modulation **signals** in **response** to the input signal. These FM modulation signals are connected to the wiring 3 via a filter 15, a high frequency transformer 16 and a plug 2 and superposed on an AC **power** supply to be transmitted to the **robot** 5. The **robot** 5 **receives** a call **signal** and starts a prescribed processing action.

39/9/6 (Item 1 from file: 350)

012850064 **Image available**

WPI Acc No: 2000-021896/200002

XRPX Acc No: N00-016197

Self navigating robot **for automated gardening work**

Patent Assignee: ROCKS J K (ROCK-I)

Inventor: ROCKS J K

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 5974348	A	19991026	US 96766486	A	19961213	200002	B

Priority Applications (No Type Date): US 96766486 A 19961213

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 5974348	A		31	G06F-165/00	

Abstract (Basic): US 5974348 A

NOVELTY - A controller (337) controls drive motor (350) and working implement (360), respectively to propel the **robot** along predetermined path and to perform gardening task. The controller controls the drive motor, based on the detected position and orientation of the **robot** within the garden.

DETAILED DESCRIPTION - A **robot** that moves within the garden includes a panoramic image collector that collects and focuses EM **radiation** **emitted** from 7 navigation beacons (121-127) positioned around a garden, at a common focal plane to form at least 7 beam spots based on the respective navigation beacons. A camera detects 7 beam spots and outputs an **electrical** signal. The **electrical** signal is processed by a **navigation** module (338), to **determine** **position** and **orientation** of **robot** that performs various gardening tasks. An INDEPENDENT CLAIM is also included for the method of controlling the **robot** to perform automated tasks.

USE - For automated gardening work over rough topography.

ADVANTAGE - The **robot** performs varied farming tasks from tillage to planting, to harvesting by controlling the point of impact of implement with precision within one half inch, thus improving commercial feasibility of truck farms. Provides precise navigation and work operations by accounting for six degree of freedom over rough

topography. Preparation and preprogramming is simple. Meets commercial demands of farmer during changing seasons, soil conditions, crop pattern and other influence on land use.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram that explains automated navigation and work operations.

Navigation beacons (121-127)
Controller (337)
Navigation module (338)
Drive motor (350)
Work implement (360)
pp; 31 DwgNo 3A/9

Title Terms: SELF; NAVIGATION; **ROBOT** ; AUTOMATIC; GARDEN; WORK
Derwent Class: S02; T01; T04; T06; X25
International Patent Class (Main): G06F-165/00
International Patent Class (Additional): G01C-021/00
File Segment: EPI
Manual Codes (EPI/S-X): S02-B08; T01-J07B; **T01-J10A** ; **T01-J10B2** ; T01-S02 ; T04-D07C; **T06-B01A** ; T06-D01A; X25-F05A

39/9/7 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

011839986 **Image available**
WPI Acc No: 1998-256896/199823
XRPX Acc No: N98-203192

Obstruction detector for moving apparatus e.g. robot **apparatus - determines colour level of predetermined colour that exceeds second colour threshold value when variation of brightness level exceeds second brightness level threshold value according to second image**

Patent Assignee: SONY CORP (SONY)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 10083446	A	19980331	JP 96260299	A	19960909	199823	B

Priority Applications (No Type Date): JP 96260299 A 19960909
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 10083446	A		13	G06T-001/00	

Abstract (Basic): JP 10083446 A

The detector (2) includes a **light** source which **emits light** intermittently. A CCD camera (4) obtains the image of a photographed object in the irradiation direction of the light source. A memory stores the second and third images during the lighting of a first image.

The first and third images are compared. An area detector senses whether the variation of the colour level of a predetermined colour is below a first colour threshold value to determine that the variation of a brightness level is below a first brightness threshold value. The colour level of the predetermined colour that exceeds a second colour threshold value is detected when the variation of the brightness level exceeds a second brightness threshold value based on the second image.

ADVANTAGE - Detects obstruction accurately with simple structure since position relationship with obstruction is determined as detected area.

Dwg.1/5

Title Terms: OBSTRUCT; DETECT; MOVE; APPARATUS; **ROBOT** ; APPARATUS; DETERMINE; COLOUR; LEVEL; PREDETERMINED; COLOUR; SECOND; COLOUR; THRESHOLD; VALUE; VARIATION; BRIGHT; LEVEL; SECOND; BRIGHT; LEVEL; THRESHOLD; VALUE; ACCORD; SECOND; IMAGE
Index Terms/Additional Words: CHARGE; COUPLED; DEVICE
Derwent Class: P62; S02; S03; T01; T06; X25
International Patent Class (Main): G06T-001/00
International Patent Class (Additional): B25J-019/04; G01B-011/00; G01V-008/10; **G05D-001/02**

File Segment: EPI; EngPI
Manual Codes (EPI/S-X): S02-A03B; S02-A06C; S03-C04; S03-C06; T01-J07C;
T01-J10A ; T01-J10B3B; **T06-B01A** ; X25-F05A

39/9/8 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010248460 **Image available**
WPI Acc No: 1995-149715/199520
XRPX Acc No: N95-117432
Self-position recognition device for driverless vehicle or robot **- has two** charged **coupled device, two target position recognition devices and two laser pointers and position is** detected **from angle** information **on second CCD camera NoAbstract**
Patent Assignee: SUZUKI KK (SUZM)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 7071978	A	19950317	JP 93247564	A	19930903	199520	B

Priority Applications (No Type Date): JP 93247564 A 19930903
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 7071978	A		7	G01C-021/00	

Abstract (Basic): JP 7071978 A
Dwg.1/6
Title Terms: SELF; POSITION; RECOGNISE; DEVICE; DRIVE; VEHICLE; **ROBOT** ; TWO; **CHARGE** ; COUPLE; DEVICE; TWO; TARGET; POSITION; RECOGNISE; DEVICE; TWO; LASER; POINT; POSITION; DETECT; ANGLE; INFORMATION; SECOND; CCD; CAMERA; NOABSTRACT
Derwent Class: S02; T04; T06; X25
International Patent Class (Main): G01C-021/00
International Patent Class (Additional): **G05D-001/02** ; **G06T-007/00** ; H04N-007/18
File Segment: EPI
Manual Codes (EPI/S-X): S02-B08; T04-D07D; **T06-B01A** ; X25-F05A
?

Set	Items	Description
S1	90040	ROBOT? ? OR ROBOTIC OR TOYROBOT? OR ROBOTTOY? OR ROBOTPET? OR PETROBOT? OR ANIMALROBOT? OR ROBOTANIMAL? OR AIBO OR ROBOTDOG? OR DOGROBOT?
S2	4830	TELEOPERATOR? OR TELEOPERATER? OR TELE()(OPERATOR? OR OPERATER?) OR MECHATRONIC? OR SERVOMECHANISM? OR SERVO()MECHANISM? OR AUTOMATA OR AUTOMATON?
S3	6	AUTOMATED(1W)MECHANICAL()(DEVICE? OR MANIPULAT? OR APP?? OR APPARATUS? OR INSTRUMENT????? ? OR EQUIPMENT? OR INVENTION? OR UNIT? ? OR ASSEMBL? OR APPLIANCE? OR SYSTEM? ?)
S4	3381170	PICKUP OR PICK???()UP OR RECOGNI? OR DETECT? OR FIND? OR FOUND OR READ??? OR DISCRIMINAT? OR IDENTIF? OR SENS??? OR SCAN OR SCANS OR SCANNED OR SCANNING
S5	765213	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(IMAGE? OR INFORMATION OR DATA OR PRINT OR PRINTED OR 3D OR DIMENSION? OR COLOR? OR COLOUR? OR PATTERN?)
S6	632588	(S4 OR RECEIV? OR REPOND? OR RESPONSE? OR RECEPT?)(2N)(BARCOD? OR BAR()(CODE? ? OR CODING) OR SIGNAL??? OR UPC OR UPCS OR SKU OR SKUS OR 2D OR STEREOSCOP?)
S7	1874	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(STEREOGRA? OR HOLOGRA? OR CUBIC OR VOLUMETRIC OR MULTIDIMENSION?)
S8	11538	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(UNIVERSAL()PRODUCT OR IDENTIF? OR ID)()(CODE? ? OR CODING)
S9	3329826	TRANSMIT? OR TRANSMIS? OR SEND? OR SENT OR RECEIV? OR EMIT? OR EMIS? OR EMANAT?
S10	507536	S9(2N)(LIGHT OR PHOTIC? OR INFRARED? OR RADIA????? OR SOUND? ? OR SOUNDWAVE? OR AUDIO OR AUDIOWAVE? OR RADIOWAVE? OR MAGNETICWAVE? OR MAGNETIC)
S11	64896	S10(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENSITIV? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL???? OR WAVE? ? OR SONIC? ?)
S12	5634705	RANGE? OR BEAR??? OR DISTAN? OR DIRECTION? OR LOCAT? OR SITUAT?? OR PLACEMENT? OR EMPLAC? OR POSITION? ? OR VECTOR? OR PLACED OR PATH OR COURSE
S13	741621	NAVIGAT? OR HEADING OR ORIENTATION OR ROUTE? OR ROUTING OR WAY
S14	251825	S12-S13(3N)(CALCULAT? OR MEASUR? OR COMPUT? OR GAUG? OR ASSESS? OR ANALYS? OR ANALYT? OR ANALYZ? OR DETERMIN? OR DET? ? OR QUANTIF? OR DERIV?)
S15	40009	S12:S13(3N)(MENSUR? OR EVALUAT? OR FIGUR??? OR TABULAT? OR CALIBRAT? OR ESTIMAT? OR APPROXIMAT?)
S16	9492	S1:S3 AND S5:S8
S17	6414	S1:S3 AND S14:S15
S18	568660	S9(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENS? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL???? OR WAVE? ? OR SONIC? ?)
S19	5647	S1:S3 AND (S10 OR S18)
S20	3028467	REGENERAT? OR REENERGI? OR RECHARG? OR BATTERY? OR BATTERIES OR CHARGE? ? OR CHARGING OR POWER OR ENERGY OR ELECTRICITY OR ELECTRICAL
S21	30863	(FUEL OR ELECTROCHEMICAL)()CELL? ?
S22	3278	(S16:S17 OR S19) AND S20:S21
S23	13171	IC='G05D-001/02':IC='G05D-001/02-000/B62D137:00'
S24	2817	IC='B25J-005/00'
S25	3811	IC='B25J-013/08'
S26	20	S22 AND S23 AND S24 AND S25
S27	5486	MC='W01-A07G'
S28	295659	IC=H04L?
S29	9135	MC='T01-J10A'
S30	3380	IC='G06T-001/60'
S31	17043	MC='T01-J10B2'
S32	23332	IC='G06T-007':IC='G06T-007/60'
S33	4205	MC='T06-B01A'
S34	13818	IC='G05D-001/02':IC='G05D-001/035'
S35	21	S22 AND S27:S28
S36	110	S22 AND S29:S32
S37	168	S22 AND S33:S34

S38 11 S37 AND S35:S36
S39 8 S38 NOT S26
S40 13398 S20:S21(3N)(SEARCH? OR LOCAT? OR FIND? OR FOUND OR SEEK? OR LOOK?)
S41 14 S22 AND S40
S42 12 S41 NOT (S26 OR S38)

42/9/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO

03621202 **Image available**
MOTOR-DRIVEN MOBILE **ROBOT**

PUB. NO.: 03-284102 [JP 3284102 A]
PUBLISHED: December 13, 1991 (19911213)
INVENTOR(s): ONISHI MASANORI
TABATA HIDEMITSU
YAMASHITA TEPPEI
MURATA MASANAO
APPLICANT(s): SHINKO ELECTRIC CO LTD [000205] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 02-080163 [JP 9080163]
FILED: March 28, 1990 (19900328)
INTL CLASS: [5] B60L-011/18; B25J-005/00; B25J-019/00; B60K-001/04; G05D-001/02
JAPIO CLASS: 26.1 (TRANSPORTATION -- Railways); 22.2 (MACHINERY -- Mechanism & Transmission); 22.3 (MACHINERY -- Control & Regulation); 26.2 (TRANSPORTATION -- Motor Vehicles); 26.9 (TRANSPORTATION -- Other); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**); 42.9 (ELECTRONICS -- Other
JOURNAL: Section: M, Section No. 1224, Vol. 16, No. 115, Pg. 76, March 23, 1992 (19920323)

ABSTRACT

PURPOSE: To simplify the process of a control station by a method wherein a **charging** station **looking** -up means which **looks** up a nearby **charging** station by referring to a map memory when it is judged by a **charged** status judging means that **charging** is necessary and a **charging** travel control means which makes a **robot** travel toward the **looked** up **charging** station are provided.

CONSTITUTION: A **battery** voltage detector 2j outputs a signal which indicates that the **battery** voltage reaches a predetermined value. A timer 2k outputs a signal which indicates that a predetermined time period has passed. The first one among the above-mentioned two **signals** is **transmitted** to a central processing unit(CPU) 2a. Then the CPU 2b calls a program memory 2b and **looks** up a nearby **charging** station by referring to a map memory 2f. The mobile **robot** 2 is made to travel automatically toward the **looked** up **charging** station while it is referring to the map memory 2f.

42/9/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO

03288083 **Image available**
LASER BEAM MACHINE

PUB. NO.: 02-263583 [JP 2263583 A]
PUBLISHED: October 26, 1990 (19901026)
INVENTOR(s): MORI ATSUSHI
APPLICANT(s): FANUC LTD [419041] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 01-084578 [JP 8984578]
FILED: April 03, 1989 (19890403)
INTL CLASS: [5] B23K-026/00; B23K-026/06

JAPIO CLASS: 12.5 (METALS -- Working); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**)
JAPIO KEYWORD: R002 (LASERS)
JOURNAL: Section: M, Section No. 1069, Vol. 15, No. 13, Pg. 79, January 11, 1991 (19910111)

ABSTRACT

PURPOSE: To safely carry out confirmation of beam mode and adjustment of an optical axis by irradiating a beam absorber with a laser beam at the time of maintaining and confirming machining performance.

CONSTITUTION: A CNC device 3 is programmed in advance and moved automatically to the **measuring position** to **measure power** and the obtained data are compared with the data of a **power** meter 15 in a laser beam oscillator 1 and a warning is displayed on a screen when there is abnormality. Namely, at the time of work starting checking and periodical checking or when it appears that machining performance is lowered, a machining head is moved to a place where a **power** meter 50 is **located** to irradiate it with the laser beam. At this time, comparison is made with the **power** meter 15 attached to the laser beam oscillator 1 which is checked up with the data measured in advance and some abnormality of a beam system can be checked. In addition, since the **power** meter 50 functions as an absorber of the laser beam, at the time of confirming the beam mode and adjusting the optical axis, it is prevented that the unexpected direction is irradiated with the laser beam.

42/9/3 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO

00633523 **Image available**
CONTACTLESS TEMPERATURE SENSING UNIT

PUB. NO.: 55-121123 [JP 55121123 A]
PUBLISHED: September 18, 1980 (19800918)
INVENTOR(s): HASHIBA YUTAKA
APPLICANT(s): TOSHIBA CORP [000307] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 54-028606 [JP 7928606]
FILED: March 14, 1979 (19790314)
INTL CLASS: [3] G01J-005/10
JAPIO CLASS: 46.1 (INSTRUMENTATION -- Measurement)
JOURNAL: Section: P, Section No. 39, Vol. 04, No. 177, Pg. 98, December 09, 1980 (19801209)

ABSTRACT

PURPOSE: To improve temperature sensing precision by correcting emissivity of a body surface, by putting a unit measuring the emissivity and that making automatic corrections of the **emissivity** of an **infrared** -ray thermometer into interlocking operation when taking contactless measurements of a body temperature and body-surface emissivity.

CONSTITUTION: When projection **energy** w(sub 0) is **radiated** from **emissivity** correcting **light radiator** 1 to body 2 to be measured, absorbed **energy** w(sub .epsilon.) is absorbed and reflected **energy** w(sub u) is reflected and detected by infrared-ray detector 3 of a PbSe pyroelectric type, etc. Then, operator 4 **finds energy** w(sub .epsilon.) absorbed by measured body 2 to calculate emissivity .epsilon. (=w(sub .epsilon.)/w(sub 0)). On the output side of detector 7 detecting **energy** w(sub .epsilon.) radiated from measured body 2, a voltage divider is provided which consists of variable resistance R(sub .epsilon.) and fixed resistance R, and on the basis of emissivity (.epsilon.), the rotation angle of this variable resistance R(sub .epsilon.) is controlled by **servomechanism** 6 to fix resistance R(sub .epsilon.)' satisfying 1+R(sub .epsilon.)'/R(sub .epsilon.)=.epsilon.(sup -1/41). Thus, the output of the infrared-ray detector is corrected to a constant value without reference to variation in emissivity (.epsilon.), so that an accurate measurement of

temperature will come into effect.

42/9/4 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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012998957 **Image available**
WPI Acc No: 2000-170809/200015
XRPX Acc No: N00-127000
Touch gun remote switching clutch for controlling a robot
Patent Assignee: TREGASKISS LTD (TREG-N)
Inventor: PRATT K K; STEVENS R
Number of Countries: 023 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 9965652	A1	19991223	WO 99IB1120	A	19990616	200015	B
US 6166506	A	20001226	US 9889843	A	19980619	200103	
			US 99329518	A	19990610		

Priority Applications (No Type Date): US 99329518 A 19990610; US 9889843 P 19980619
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9965652	A1	E	18	B25J-019/06	

Designated States (National): BR CA JP MX
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

US 6166506	A	G05B-019/00	Provisional application US 9889843

Abstract (Basic): WO 9965652 A1
NOVELTY - A sensor (18) senses a crash event, based on which a transmitter (20) **sends** the crash **signal** . A radio frequency receiver (14), which receives the **transmitted** crash **signal** , is electrically connected to a control unit (16) and disables the **robot** on reception of the crash **signal** . The crash **sensor** and the transmitter are mounted on the welding torch (12).
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for disabling a **robotic** /automatic motion device.
USE - For controlling the functions of **robot** .
ADVANTAGE - The touch gun remote eliminates hard wired cable path between safety clutch and **robotic** arm controller, while enabling the operator to test whether the transmitter and receiver are properly communicating with each other. A low **battery** LED **located** on the transmitter, turns ON to indicate that the **battery** needs to be replaced.
DESCRIPTION OF DRAWING(S) - Figure shows the touch gun remote switching clutch.
Welding torch (12)
Radio frequency receiver (14)
Control unit (16)
Sensor (18)
Transmitter (20)
pp; 18 DwgNo 1/3
Title Terms: TOUCH; GUN; REMOTE; SWITCH; CLUTCH; CONTROL; **ROBOT**
Derwent Class: P55; P62; Q68; W05; X24
International Patent Class (Main): B25J-019/06; G05B-019/00
International Patent Class (Additional): B23K-009/28; F16P-003/12; G08C-017/04
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): W05-D03X; W05-D04; X24-B03

42/9/5 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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012933542 **Image available**

WPI Acc No: 2000-105389/200009
XRPX Acc No: N00-080989
Automated test system for electronic devices
Patent Assignee: MOTOROLA INC (MOTI)
Inventor: CRAWFORD R J; MILLER J K
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 6008636	A	19991228	US 97940315	A	19970930	200009	B

Priority Applications (No Type Date): US 97940315 A 19970930
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 6008636	A		12	G01R-001/04	

Abstract (Basic): US 6008636 A
NOVELTY - The test system for electronic devices is housed in a frame with test sets located in the base and test controllers (204) and **power** supplies **located** in a covering canopy. A conveyor belt feeds devices into the unit and from the unit. A **robot** arm (102) moves the devices to appropriate locations within the system. Cameras (150) locate and orient devices for the **robot** arm and a **bar code reader identifies** the devices. The arm moves devices onto relevant test sites (112).
USE - Automated testing of electronic devices
ADVANTAGE - By using a single **robotic** arm to feed an array of test units, the test system can be compact and simpler than multiple **robot** systems
DESCRIPTION OF DRAWING(S) - Test system
Robot arm (102)
Base with test sets (110)
Test locations (112)
Canopy with control circuits (113)
Cameras (150)
pp; 12 DwgNo 2/4
Title Terms: AUTOMATIC; TEST; SYSTEM; ELECTRONIC; DEVICE
Derwent Class: S01
International Patent Class (Main): G01R-001/04
File Segment: EPI
Manual Codes (EPI/S-X): S01-G01B3; S01-H

42/9/6 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX

010417284
WPI Acc No: 1995-318599/199541
XRAM Acc No: C95-141598
XRPX Acc No: N95-239747
Control unit using viscous fluid for robot **precision mfg. machine, etc. - has sensor for transmission or operating section, control stabilising system using viscous fluid, etc**
Patent Assignee: ASAHI KASEI KOGYO KK (ASAH)
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 7217610	A	19950815	JP 9413621	A	19940207	199541	B

Priority Applications (No Type Date): JP 9413621 A 19940207
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 7217610	A		9	F15B-021/06	

Abstract (Basic): JP 7217610 A
The control unit has a controlled section consisting of a driving system, a transmission system and an operation section; a control device; a sensor provided to the transmission system or the operation

section; and a control stabilising system. **Information** from the **sensor** is fed back to the control device to apply closed loop control to control quantity. The control stabilising system uses a viscous fluid having a viscosity at a shear rate of 1-10 second-1 of at least 3 times higher than viscosity at a shear rate of 10 times the above-mentioned shear rate.

USE - Used for promptly controlling with high accuracy the control quantity, including position, speed and **power** and **finds** its application in a **robot** , a precision manufacturing machine, a precision measuring instrument and a stepper.

ADVANTAGE - The stabilising system using the viscous fluid controls position, speed and **power** . Low resistance in normal work. Prompt control with high accuracy.

Dwg.0/7

Title Terms: CONTROL; UNIT; VISCOSITY; FLUID; **ROBOT** ; PRECISION; MANUFACTURE; MACHINE; SENSE; TRANSMISSION; OPERATE; SECTION; CONTROL; STABILISED; SYSTEM; VISCOSITY; FLUID

Derwent Class: H07; Q57; Q63

International Patent Class (Main): F15B-021/06

International Patent Class (Additional): C10M-169/04; C10M-171/02; C10N-020-02; C10N-040-06; C10N-040-08; C10N-040-14; F16D-035/00; C10M-107-50; C10M-155-02; C10M-105-04; C10M-143-06

File Segment: CPI; EngPI

Manual Codes (CPI/A-N): H07-X

42/9/7 (Item 4 from file: 350)

010406488 **Image available**

WPI Acc No: 1995-307818/199540

Weight compensation method for force controlled robot **- finding main** power **based on external force frequency ratio, and obtaining weight of effector part using weight vector and centre of gravity vector**

Patent Assignee: NIPPON STEEL CORP (YAWA)

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 7205075	A	19950808	JP 9423108	A	19940125	199540	B

Priority Applications (No Type Date): JP 9423108 A 19940125

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 7205075	A		7	B25J-013/08	

Abstract (Basic): JP 7205075 A

The weight compensation method involves the **calculation** of a weight **vector** of the main coordinate system, which houses a main part (1). The main part is connected through an inner force sensor (4) of a sensor coordinate system, to the main part. The time of starting of the main part is controlled by solving simultaneous equations, and obtaining the position of the main part `N' times using the least square method. The weight **vector** is **calculated** based on the centre of gravity vector of the sensor coordinate system.

The offset voltage is obtained by force control, along with the output voltage (V). The main **power** is added with the **power** owing to the voltage across the inner force sensor. The total **power** is reduced by a value equal to the additive sensor **power** . The weight of an effecter part is obtained using the weight vector and the centre of gravity vector. The external force is added to the net force, to obtain the effecter force. The main **power** is formed based on the external force frequency ratio.

ADVANTAGE - Avoids influence of offset value. Enables accurate measurement.

Dwg.3/3

Title Terms: WEIGHT; COMPENSATE; METHOD; FORCE; CONTROL; **ROBOT** ; FINDER; MAIN; **POWER** ; BASED; EXTERNAL; FORCE; FREQUENCY; RATIO; OBTAIN; WEIGHT;

EFFECTOR; PART; WEIGHT; VECTOR; CENTRE; GRAVITY; VECTOR
Derwent Class: P62; X25
International Patent Class (Main): B25J-013/08
International Patent Class (Additional): B25J-009/18
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): X25-A03E

42/9/8 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX

009831914 **Image available**
WPI Acc No: 1994-111770/199414
XRAM Acc No: C94-051496
XRPX Acc No: N94-087570
Monitoring and diagnostic system for industrial process esp. welding operation - generates electrical **signals relating to trouble conditions, places the signals in order of priority, and highlights the most urgent problem**
Patent Assignee: CLOOS INT INC (CLOO-N)
Inventor: NEEF P R; NEWELL M S; RICHARDS D; SINGH A
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
GB 2271656	A	19940420	GB 9221747	A	19921016	199414	B

Priority Applications (No Type Date): GB 9221747 A 19921016
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2271656	A		42	G08B-023/00	

Abstract (Basic): GB 2271656 A

Appts. assisting operator to monitor on-going industrial process generating output **electrical** signals has means for **sensing** the **signals** , means, coupled to the sensing means, for processing the **sensed signals** , means for establishing a priority of trouble conditions from among the processed signals, means for selecting and displaying a pre-stored screen associated with the highest priority trouble condition, and operator responsive means for selecting a different screen.

Also claimed is a system for monitoring an on-going industrial process using the appts. and an associated method.

USE/ADVANTAGE - Invention is an on-line real time process monitoring system for determining not only the existence of trouble conditions in an industrial process, but also which condition should be dealt with first. The process is typically a **robotic** complex welding process. System can sample inputs at different rates according to the state of the process so that an esp. critical signal value can be sampled more frequently. The system can provide additional help in the form of simple remedial help and measures, relevant **electrical** diagrams, key **locations** , etc. and can automatically notify a supervisor or even halt the process if the situation is sufficiently critical.

Dwg.3/12
Title Terms: MONITOR; DIAGNOSE; SYSTEM; INDUSTRIAL; PROCESS; WELD; OPERATE; GENERATE; ELECTRIC; SIGNAL; RELATED; TROUBLE; CONDITION; PLACE; SIGNAL; ORDER; PRIORITY; HIGHLIGHT; PROBLEM
Derwent Class: M23; T01; T06; X24; X25
International Patent Class (Main): G08B-023/00
File Segment: CPI; EPI
Manual Codes (CPI/A-N): M23-G
Manual Codes (EPI/S-X): T01-J07B; T06-A08; T06-D07B; X24-B03; X25-A03E1; X25-A03F

42/9/9 (Item 6 from file: 350)
DIALOG(R)File 350:Derwent WPIX

008777622 **Image available**
WPI Acc No: 1991-281639/199138
XRPX Acc No: N91-215261
Charging **system for electric vehicle** - rechargeable battery **automatically** transmits charging signal **in** response **to low** battery
Patent Assignee: CATERPILLAR IND INC (CATE)
Inventor: MINTUS R T
Number of Countries: 023 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
						199138 B
WO 9113389	A	19910905				
US 5049802	A	19910917	US 90487001	A	19900301	199140
AU 9057344	A	19910918				199150

Priority Applications (No Type Date): US 90487001 A 19900301
Cited Patents: 1.Jnl.Ref; FR 1270274; JP 60063440; US 4679152; US 4777416
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 9113389	A				

Designated States (National): AU BR CA CH DE DK ES FI GB HU JP KP NL NO RO SE SU
Designated States (Regional): AT BE CH DE DK ES FR GB IT LU NL SE

Abstract (Basic): WO 9113389 A
The **rechargeable battery** , normally connected to the vehicle, is used within the **charging** system. The vehicle contains a **charge** receiving member which is controllably connected to the **battery** .
A **charge** control signal is produced when the vehicle is positioned at a **charging location** . The vehicle motor is then automatically disconnected from the **battery** and the **charge** receiving member connected to the **battery** .
USE/ADVANTAGE - Automatically **charges battery** on **robotic** vehicle. **Battery charger** is not **located** on vehicle therefore reducing overall weight and cost of vehicle. (Dwg.No.2/3)
Abstract (Equivalent): US 5049802 A
The system typically has exposed contacts or the need for additional circuitry to move the contacts. The system includes circuitry which allows the **charge** receiving member to be only connected to the **battery** during **charging** . The **charging** system produces a **charging signal** in **response** to a low **battery** .
A microprocessor **receives** the **charging signal** and responsively produces a ''pulse'' signal. A second transistor switch **receives** the ''pulse'' **signal** and responsively energises a **charging** contactor coil. In response to the **charging** contactor coil being energised, contacts controllably block **power** from the **battery** to the motor and pass **power** from the receiving member to the **battery** .
USE - Automated **charging** system for vehicle having **rechargeable batteries** . (9pp)
Title Terms: **CHARGE** ; SYSTEM; ELECTRIC; VEHICLE; **RECHARGE** ; **BATTERY** ; AUTOMATIC; TRANSMIT; **CHARGE** ; SIGNAL; RESPOND; LOW; **BATTERY**
Derwent Class: Q46; T06; X16; X21; X25
International Patent Class (Additional): E04H-006/00; G05D-001/02; H02J-007/00
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): T06-B01A; T06-D08F; X16-G02; X21-B01; X25-F05A

42/9/10 (Item 7 from file: 350)
DIALOG(R)File 350:Derwent WPIX

007761240
WPI Acc No: 1989-026352/198904
XRPX Acc No: N89-020080
Robot **agua-feeder for shrimp culturing pond - has control unit which**

received electrical signals **from photoelectric** sensors **and is used to control rotational speed of motors**

Patent Assignee: KAO Y (KAOY-I); YT-TUNG K (YITU-I)
Inventor: YITUNG K
Number of Countries: 002 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
GB 2207104	A	19890125	GB 8717197	A	19870721	198904 B
US 4799459	A	19890124	US 8776115	A	19870721	198906
GB 2207104	B	19910417				199116

Priority Applications (No Type Date): GB 8717197 A 19870721; US 8776115 A 19870721
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
GB 2207104	A		18		
US 4799459	A		10		

Abstract (Basic): GB 2207104 A

The body is in the shape of a boat and is symmetrically provided with two **power** boxes at the right and left sides respectively for disposing the **batteries** and propelling motors (111, 112). At the outer rear ends of the **power** boxes are respectively provided the right and left vane wheels which are rotated in synchronisation with the associated motors to drive the body, forward and backward. A steering motor (113) of the underwater type is mounted in the direction perpendicular to the moving direction of the body (1) and is provided at the fore end of the body.

When the motor is actuated, it turns the ody gadually to the right. Two infrared photoelectric sensors (121, 122) having the distances sensitivity from about 1.5 to about 2 meters are fixed at the front and left of the body 1 respectively by the supporting members (124, 125). These sensors can **transmit** electronic **signals** at any time to the control unit (12) in the rear middle portion of the body.

Abstract (Equivalent): GB 2207104 B

An automatic feed-spraying system comprising: a body having generally the shape of a boat hull, said body having **batteries** and propelling motors **located** at its two sides, and a steering motor at its front which is mounted perpendicularly to the direction of movement of the body; a front photoelectric sensor mounted on a supporting member extending forwardly of the body; a side photoelectric sensor mounted on a supporting member extending transversely of the body; a further photoelectric sensor mounted on the body; a control unit which **receives** electronic **signals** from said photoelectric sensors and serves to control the speed of the motors; a feed storage tank provided in a central portion of the body and having a blower associated therewith for spraying feed discharged from the tank to the exterior by way of discharge conduits, the blower also being under the control of the control unit; a mooring comprising two groups of floats slidably attached to fixed posts, the posts of each group being connected to a respective continuous bar; a plurality of rotatable rollers on two sides of the body for cooperating with said bars of the mooring; a **charging** post provided at one end of one side of the body, said **charging** post having conducting plates on its two sides insulated from one another and connected to the positive and negative poles of the **batteries** ; a **locating** post provided at the other end of said side of the body; **charging** means on one of the floats connectable to the positive and negative poles of a **power** supply and arranged to contact the conductive plates of the **charging** post to **charge** the **batteries** when the body is in the mooring; a positioning device controllable by an electromagnet so as to form a gate which can be opened to allow the body to pass; a stop device comprising a pin, a spring and a guide tube and acting in cooperation with the positioning device to position the conductive plates of the **charging** post to contact the **charging** means during **charging** ;

Abstract (Equivalent): US 4799459 A

The automatic guiding, **charging** , and timed feed spraying feeder system, comprises floatable main body. The body has sides and at each

side has a **power** box. There are **batteries** on the body and a propelling motor in each **power** box. The propelling motors are connected with the **batteries** for being powered. The fore end carries a steering motor. The steering motor is mounted in a direction perpendicular to the moving direction of the body. A foward support extends forward from the body and a first photoelectric sensor mounted. A sideward support extends transversely from the body and a side photoelectric sensor is mounted on it. A central photoelectric sensor is mounted at a central portion of the body.

A control is connected to the sensors to **receive** the **signals** from the photoelectric sensors and is connected to and controls the rotational speed of the motors. A feed storage tank in the central portion of the body has a narrow opening provided at the bottom of the tank. A blower has a 3-way tube having two branches connected with the exterior of the tank.

USE - For shrimp cultures

Title Terms: **ROBOT** ; FEED; SHRIMP; CULTURE; POND; CONTROL; UNIT; RECEIVE; ELECTRIC; SIGNAL; PHOTOELECTRIC; SENSE; CONTROL; ROTATING; SPEED; MOTOR
Derwent Class: P14; Q24; X25
International Patent Class (Additional): A01K-061/02; B63H-025/42
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): X25-N02; X25-N02A

42/9/11 (Item 8 from file: 350)
DIALOG(R)File 350:Derwent WPIX

007150703
WPI Acc No: 1987-150700/198721
XRPX Acc No: N87-112949

Sliding, swing door with proximity detector - uses either reflective acoustic e.g. sonic or ultrasonic, or electromagnetic type detection unit

Patent Assignee: FORMULA SYSTEMS LTD (FORM-N); FORMULA SYST LTD (FORM-N); TRETT J (TRET-I)
Inventor: BRADBEER P F; TRETT J
Number of Countries: 042 Number of Patents: 017
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 8703100	A	19870521	WO 86GB683	A	19861106	198721	B
EP 226322	A	19870624	EP 86308646	A	19861106	198725	
AU 8665992	A	19870602				198733	
JP 63501315	W	19880519	JP 86505880	A	19861106	198826	
US 4864296	A	19890905	US 88216611	A	19880708	198945	
US 4894952	A	19900123	US 8788109	A	19870812	199011	
US 4910464	A	19900320	US 88216229	A	19880707	199017	
AU 8944663	A	19900308				199019	
AU 8944664	A	19900308				199019	
AU 8944666	A	19900315				199019	
EP 380187	A	19900801	EP 86200586	A	19861106	199031	
CA 1285627	C	19910702				199147	
CA 1285629	C	19910702				199147	
CA 1285630	C	19910702				199147	
CA 1303177	C	19920609	CA 522201	A	19861105	199229	
			CA 615640	A	19900206		
EP 226322	B1	19940202	EP 86308646	A	19861106	199405	
DE 3689612	G	19940317	DE 3689612	A	19861106	199412	
			EP 86308646	A	19861106		

Priority Applications (No Type Date): GB 8527277 A 19851106
Cited Patents: A3...8734; DE 3344576; EP 128513; EP 144882; EP 97139; GB 2051356; No-SR.Pub; US 3719938; US 3852592; US 3992102; US 4029176; WO 8202787; NoSR.Pub
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 8703100	A	E	37		

Designated States (National): AT AU BB BG BR CH DE DK FI GB HU JP KP KR LK LU MC MG MW NL NO RO SD SE SU US

Designated States (Regional): CF CG CM GA ML MR SN TD TG
EP 226322 A E
Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE
US 4864296 A 11
US 4894952 A 12
EP 380187 A
Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE
CA 1303177 C H04B-003/54 Div ex application CA 522201
EP 226322 B1 E 12 G01S-015/88
Designated States (Regional): AT BE CH DE ES FR GB GR IT LI LU NL SE
DE 3689612 G G01S-015/88 Based on patent EP 226322

Abstract (Basic): WO 8703100 A

The door has the detection system comprising an array of transmitter/receiver pairs. Each pair comprises a transmitter (1) for sending an **energy** pulse, a receiver (2) located close to the transmitter and directed to receive reflected transmitter pulses, and a shielding (3) for protecting the receiver (2) against the receiving **energy** pulses directly from the transmitter. At least two transmitter/receiver pairs are mounted on a leading edge on the front of the door to transmit **energy** pulses in a direction which is not at right angles to the leading surface or edge of the door, to monitor for obstruction in the path of the door.

Another two transmitter/receiver pairs are mounted on the leading edge or surface of the door to transmit **energy** pulses at right angles to the surface or edge of the door. Different transmitter/receiver pairs may transmit on different frequencies. Unwanted uneffected signals are suppressed. Data **signals** are **transmitted** on a two-conductor **power** supply cable.

ADVANTAGE - Increased sensitivity and range of detection without false firing.

3/16

Abstract (Equivalent): EP 226322 B

A movable door (12) having a leading edge (12A) mounted for movement towards an object (5) having a reflective planar surface (13) towards which the door closes, the planar surface extending generally parallel to the leading edge (12A), the movable door (12) incorporating a proximity detection system arranged to sense obstructions in the gap between the leading edge and the planar surface, the system comprising a transmitter (1) and a receiver (2) mounted adjacent said leading edge (12A), the transmitter being orientated to direct **energy** across the gap to impinge upon said planar surface at an acute angle, characterised by a barrier (3) mounted between the transmitter (1) and the receiver (2) to prevent **energy** transmitted by the transmitter (1) from being directly received by the receiver (2), in that the transmitter (1) and receiver (2) are mounted side by side and in that the receiver (2) is orientated to receive **energy** transmitted from the transmitter (1) when reflected by obstructions in the gap but not **energy** reflected by the planar surface (13).

Dwg.1/12

Abstract (Equivalent): US 4910464 A

The detection system comprises an array of transmitter/receiver pairs (21, 22 and 23), each pair comprising a transmitter (1) for transmitting an **energy** pulse, a receiver (2) located adjacent the transmitter and directed to receive any reflected transmitter pulses, and a shielding (3) for shielding the receiver (2) from receiving **energy** pulses directly from the transmitter (1). Two transmitter/receiver pairs (21, 23) are mounted on a leading edge or face of the door (12) to transmit **energy** pulses in a direction which is not at right angles to the leading surface or edge of the door, to monitor for obstructions in the path of the door (12).

Another two transmitter/receivers pairs (26 and 28) are mounted on the leading edge or surface of the door (12) to transmit **energy** pulses at right angles to the surface or edge of the door (12). Different transmitter/receiver pairs may transmit on different frequenies, and means for suppressing unwanted reflected signals is provided. Devices **transmit** data **signals** on a two-conductor **power** supply cable for the system.

USE - Automobile sliding doors, swing doors. (11pp)
US 4894952 A

A movable door incorporates a proximity detection system for sensing obstructions in the path of the door. The system comprises an array of transmitter/receiver pairs each pair comprising a transmitter for transmitting an **energy** pulse, a receiver **located** adjacent the transmitter and directed to receive any reflected transmitter pulses, and a shielding for shielding the receiver from receiving **energy** pulses directly from the transmitter. At least two transmitter/receiver pairs are mounted on a leading edge or face of the door to transmit **energy** pulses in a direction which is not at right angles to the leading surface or edge of the door to monitor for obstructions in the path of the door.

Other two transmitter/receiver pairs are mounted on the leading edge or surface of the door to transmit **energy** pulses at right angles to the surface or edge of the door. Different transmitter/receiver pairs may transmit on different frequencies, and a device for suppressing unwanted reflected signals is provided. A device for **transmitting** data **signals** on a two conductor **power** supply cable for the system is also provided.

USE - Proximity detector for automatic sliding doors, swing doors; or moving vehicles of **robots** . (12pp)e
US 4864296 A

The system synchronises pulse **signals transmitted** between two stations using only two conductor lines includes a synchronization circuit. The circuit includes two modulators and two EXCLUSIVE-OR gates for controlling when data pulses are transmitted and when synchronization pulses are transmitted. (11pp)t

Title Terms: SLIDE; SWING; DOOR; PROXIMITY; DETECT; REFLECT; ACOUSTIC; SONIC; ULTRASONIC; ELECTROMAGNET; TYPE; DETECT; UNIT
Derwent Class: Q38; Q47; S03; W06; X25
International Patent Class (Main): G01S-015/88; H04B-003/54
International Patent Class (Additional): B66B-013/26; E05F-015/00; G01N-021/84; G01S-013/88; G01S-017/88; G08B-001/08; G08B-013/00; G08C-019/16; H03K-005/22
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): S03-C09; W06-A05; W06-A06; X25-F05A; X25-U01

42/9/12 (Item 9 from file: 350)
DIALOG(R)File 350:Derwent WPIX

003309535
WPI Acc No: 1982-F7544E/198220
Analysing appts. for robot **sequence of motions - has work** robot **with controller for manipulating its links in accordance with desired mechanical** response signals **of another simulator** robot

Patent Assignee: NORDSON CORP (NORS)
Inventor: CRUM G W; KOSTAS E; WALKER J F
Number of Countries: 008 Number of Patents: 006
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
EP 51387	A	19820512	EP 81304911	A	19811020	198220	B
NO 8103608	A	19820524				198224	
US 4360886	A	19821123				198249	
CA 1170367	A	19840703				198431	
EP 51387	B	19850206				198506	
DE 3168819	G	19850321				198513	

Priority Applications (No Type Date): US 80201221 A 19801027; US 80137234 A 19800404
Cited Patents: DE 2425390; EP 37704; FR 2357942; GB 2002142; US 3422965; US 3893573
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
EP 51387	A	E	60		

Designated States (Regional): BE DE FR GB IT

EP 51387 B E
Designated States (Regional): BE DE FR GB IT

Abstract (Basic): EP 51387 A

The appts. has a work **robot** at a first **location** with **power** -driven and signal-controlled links. The latter are provided with a number of transducers to produce a signal indicating their actual position. Another portable manually manipulable simulator **robot** has links and transducers simulating the movements of the first **robot** . A signal recorder responds to the simulator **robot** link transducers for storing the signals representing a program of desired mechanical responses.

The first **robot** has a controller responding to the second **robot** stored signals to manipulate the work **robot** links for performing desired movement. An analyser generates error signals correlated to the difference between the actual position of work **robot** links and the desired position imparted to the simulator. An indicator displays the information so correlated to provide a feasibility analysis.

3

Title Terms: ANALYSE; APPARATUS; **ROBOT** ; SEQUENCE; MOTION; WORK; **ROBOT** ; CONTROL; MANIPULATE; LINK; ACCORD; MECHANICAL; RESPOND; SIGNAL; SIMULATE; **ROBOT**

Derwent Class: P62; T06; X25

International Patent Class (Additional): B25J-009/00; G05B-019/42; G06F-011/30

File Segment: EPI; EngPI

Manual Codes (EPI/S-X): T06-A04A1; T06-D07; X25-A03

?

Set	Items	Description
S1	90040	ROBOT? ? OR ROBOTIC OR TOYROBOT? OR ROBOTTOY? OR ROBOTPET? OR PETROBOT? OR ANIMALROBOT? OR ROBOTANIMAL? OR AIBO OR ROBOTDOG? OR DOGROBOT?
S2	4830	TELEOPERATOR? OR TELEOPERATER? OR TELE()(OPERATOR? OR OPERATER?) OR MECHATRONIC? OR SERVOMECHANISM? OR SERVO()MECHANISM? OR AUTOMATA OR AUTOMATON?
S3	6	AUTOMATED(1W)MECHANICAL()(DEVICE? OR MANIPULAT? OR APP?? OR APPARATUS? OR INSTRUMENT????? ? OR EQUIPMENT? OR INVENTION? OR UNIT? ? OR ASSEMBL? OR APPLIANCE? OR SYSTEM? ?)
S4	3381170	PICKUP OR PICK???()UP OR RECOGNI? OR DETECT? OR FIND? OR FOUND OR READ??? OR DISCRIMINAT? OR IDENTIF? OR SENS??? OR SCAN OR SCANS OR SCANNED OR SCANNING
S5	765213	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(IMAGE? OR INFORMATION OR DATA OR PRINT OR PRINTED OR 3D OR DIMENSION? OR COLOR? OR COLOUR? OR PATTERN?)
S6	632588	(S4 OR RECEIV? OR REPOND? OR RESPONSE? OR RECEPT?)(2N)(BARCOD? OR BAR()(CODE? ? OR CODING) OR SIGNAL??? OR UPC OR UPCS OR SKU OR SKUS OR 2D OR STEREOSCOP?)
S7	1874	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(STEREOGRA? OR HOLOGRA? OR CUBIC OR VOLUMETRIC OR MULTIDIMENSION?)
S8	11538	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(UNIVERSAL()PRODUCT OR IDENTIF? OR ID)()(CODE? ? OR CODING)
S9	3329826	TRANSMIT? OR TRANSMIS? OR SEND? OR SENT OR RECEIV? OR EMIT? OR EMIS? OR EMANAT?
S10	507536	S9(2N)(LIGHT OR PHOTIC? OR INFRARED? OR RADIA????? OR SOUND? ? OR SOUNDWAVE? OR AUDIO OR AUDIOWAVE? OR RADIOWAVE? OR MAGNETICWAVE? OR MAGNETIC)
S11	64896	S10(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENSITIV? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL??? OR WAVE? ? OR SONIC? ?)
S12	5634705	RANGE? OR BEAR??? OR DISTAN? OR DIRECTION? OR LOCAT? OR SITUAT?? OR PLACEMENT? OR EMPLAC? OR POSITION? ? OR VECTOR? OR PLACED OR PATH OR COURSE
S13	741621	NAVIGAT? OR HEADING OR ORIENTATION OR ROUTE? OR ROUTING OR WAY
S14	251825	S12-S13(3N)(CALCULAT? OR MEASUR? OR COMPUT? OR GAUG? OR ASSESS? OR ANALYS? OR ANALYT? OR ANALYZ? OR DETERMIN? OR DET? ? OR QUANTIF? OR DERIV?)
S15	40009	S12:S13(3N)(MENSUR? OR EVALUAT? OR FIGUR??? OR TABULAT? OR CALIBRAT? OR ESTIMAT? OR APPROXIMAT?)
S16	9492	S1:S3 AND S5:S8
S17	6414	S1:S3 AND S14:S15
S18	568660	S9(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENS? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL???? OR WAVE? ? OR SONIC? ?)
S19	5647	S1:S3 AND (S10 OR S18)
S20	3028467	REGENERAT? OR REENERGI? OR RECHARG? OR BATTERY? OR BATTERIES OR CHARGE? ? OR CHARGING OR POWER OR ENERGY OR ELECTRICITY OR ELECTRICAL
S21	30863	(FUEL OR ELECTROCHEMICAL)()CELL? ?
S22	3278	(S16:S17 OR S19) AND S20:S21
S23	13171	IC='G05D-001/02':IC='G05D-001/02-000/B62D137:00'
S24	2817	IC='B25J-005/00'
S25	3811	IC='B25J-013/08'
S26	20	S22 AND S23 AND S24 AND S25
S27	5486	MC='W01-A07G'
S28	295659	IC=H04L?
S29	9135	MC='T01-J10A'
S30	3380	IC='G06T-001/60'
S31	17043	MC='T01-J10B2'
S32	23332	IC='G06T-007':IC='G06T-007/60'
S33	4205	MC='T06-B01A'
S34	13818	IC='G05D-001/02':IC='G05D-001/035'
S35	21	S22 AND S27:S28
S36	110	S22 AND S29:S32

S37 168 S22 AND S33:S34
S38 11 S37 AND S35:S36
S39 8 S38 NOT S26
S40 13398 S20:S21(3N)(SEARCH? OR LOCAT? OR FIND? OR FOUND OR SEEK? OR LOOK?)
S41 14 S22 AND S40
S42 12 S41 NOT (S26 OR S38)
S43 381357 REGENERAT? OR REENERGI? OR RECHARG? OR BATTERY? OR BATTERIES OR (CHARGE? ? OR CHARGING)()(STATION? ? OR SOURCE?)
S44 254212 (POWER OR ENERGY OR ELECTRICITY OR ELECTRICAL)(2N)SOURCE?
S45 8 S1:S3 AND S14:S15(5N)(S21 OR S43:S44)
S46 7 S45 NOT (S26 OR S38 OR S41)
?t46/9/all

46/9/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2002 JPO & JAPIO. All rts. reserv.

06210131 **Image available**
WORKING **ROBOT** CONTROLLER

PUB. NO.: 11-151691 [JP 11151691 A]
PUBLISHED: June 08, 1999 (19990608)
INVENTOR(s): SUZUKI KUMIKO
APPLICANT(s): TOSHIBA CORP
APPL. NO.: 09-334889 [JP 97334889]
FILED: November 20, 1997 (19971120)
INTL CLASS: B25J-009/10; B25J-005/00

ABSTRACT

PROBLEM TO BE SOLVED: To provide a working **robot** controller which can shorten the time required for preparing the work at the time of regeneration of the work and can improve the work efficiency.

SOLUTION: A work position travel calculator 18 calculates a travel position of a work position of a working **robot** in accordance with changes of a relative position of a vehicle and work object (a pole) based on the work position of the working **robot** stored in a work position memory part 17 and a relative **position** from a **position measuring** device 21. A **regeneration** movement controller 19 drives a positioning mechanism 5 to move the working **robot** to the travel position calculated by the work position travel calculator 18.

46/9/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2002 JPO & JAPIO. All rts. reserv.

03581576 **Image available**
CADDY **ROBOT** FOR GOLF COURSE

PUB. NO.: 03-244476 [JP 3244476 A]
PUBLISHED: October 31, 1991 (19911031)
INVENTOR(s): TOKUDA TORU
KAWAHARA YOSHIAKI
SUGIOKA TAKAO
APPLICANT(s): KOATSU GAS KOGYO CO LTD [325769] (A Japanese Company or Corporation), JP (Japan)
GENERAL KIYASEI KK [000000] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 02-039932 [JP 9039932]
FILED: February 21, 1990 (19900221)
INTL CLASS: [5] A63B-055/08; G08C-017/00; G11B-031/00; E05B-049/00
JAPIO CLASS: 30.2 (MISCELLANEOUS GOODS -- Sports & Recreation); 31.9 (PACKAGING -- Other); 42.5 (ELECTRONICS -- Equipment); 44.2 (COMMUNICATION -- Transmission Systems)

JOURNAL: Section: C, Section No. 905, Vol. 16, No. 33, Pg. 110, January 28, 1992 (19920128)

ABSTRACT

PURPOSE: To transport golf bag in lieu of a caddy, display the distance from an arbitrary position of a cart in each course on a CRT upon direct measurement, and offer various pieces of course information such as the weather on the day, slope gradient of the green, etc.

CONSTITUTION: A cart 10 for transporting golf bag is of monorail track type running by itself while in engagement with a single rail furnished along a golf course, wherein the start and stop are controlled from a remote switch 39 held by a player P and the motor is operated by a drive motive as a **battery** . A **distance measuring** device 22 **determines** the **distance** from the electronic wave reaching time by the use, for example of a usual transmitter and receiver which can distinguish the wavelength of the electronic wave. An IC read/write part 23 includes a setting part 23a for that master card 41 among contactless IC cards 40 which stores written information on the current day such as associate player's name, frequency of the signal transmitter 31 for distance measurement installed by the pin 5 for each hole, and the location of pin in each green, weather, and wind direction on the day.

46/9/3 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2002 JPO & JAPIO. All rts. reserv.

03243071 **Image available**
CONTROL METHOD FOR REGENERATING POSITION OF MACHINE

PUB. NO.: 02-218571 [JP 2218571 A]
PUBLISHED: August 31, 1990 (19900831)
INVENTOR(s): MIYATA TAKASHI
APPLICANT(s): MITSUBISHI HEAVY IND LTD [000620] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 01-033738 [JP 8933738]
FILED: February 15, 1989 (19890215)
INTL CLASS: [5] B25J-009/22; B25J-009/10; G05D-003/12
JAPIO CLASS: 26.9 (TRANSPORTATION -- Other); 22.3 (MACHINERY -- Control & Regulation); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**); 45.4 (INFORMATION PROCESSING -- Computer Applications
JOURNAL: Section: M, Section No. 1048, Vol. 14, No. 519, Pg. 129, November 14, 1990 (19901114)

ABSTRACT

PURPOSE: To make a **regeneration** operation **path** smooth by **computing** a mean through addition of weight functions to an instructed position, several instructed positions before it, and several instructed positions behind, respectively, and regenerating a moving axis with this mean being a regenerated position which is compensated with respect to the instructed position.

CONSTITUTION: In operating a regenerated position P(sub i)* corresponding to an instructed position P(sub i), weight functions K(sub i-m),..., K(sub i-1), K(sub i), K(sub i+1), K(sub i+)K are, respectively, added to instructed positions of m + K + 1 in number, P(sub i-m),..., P(sub i+1), P(sub i), P(sub i+1),..., P(sub i+)K so as to obtain a mean, and thus a regenerated position P(sub i)* where deviation caused by plain swing is compensated can be obtained. It is thus possible to perform regeneration by a smooth pass nearly the same as a path for required operation intended by an operator. In this case, compensation can be automatically controlled by computing variation in path located ahead of the path under operation, and varying the reference position number m, K and the weight function K(sub i), themselves according to the variation

46/9/4 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO

02358675 **Image available**
TOUGH SENSING METHOD FOR WELD ZONE

PUB. NO.: 62-275575 [JP 62275575 A]
PUBLISHED: November 30, 1987 (19871130)
INVENTOR(s): NAKAMURA UHACHIRO
FUKUZAWA MITSUO
TOMIDOKORO SAKAE
APPLICANT(s): ISHIKAWAJIMA HARIMA HEAVY IND CO LTD [000009] (A Japanese Company or Corporation), JP (Japan)
APPL. NO.: 61-117544 [JP 86117544]
FILED: May 23, 1986 (19860523)
INTL CLASS: [4] B23K-009/12
JAPIO CLASS: 12.5 (METALS -- Working); 36.1 (LABOR SAVING DEVICES -- Industrial **Robots**)
JAPIO KEYWORD:R036 (METALS -- Automatic Welding)
JOURNAL: Section: M, Section No. 696, Vol. 12, No. 157, Pg. 25, May 13, 1988 (19880513)

ABSTRACT

PURPOSE: To exactly measure the position of the weld zone of a base metal by moving a tip end vertically or horizontally to the base metal while a welding wire is held retracted from the tip at the top end of a torch nozzle and measuring the moving distance thereof.

CONSTITUTION: Since the length of the wire projecting from the tip is not fixed, the position of the contact point 4a of the weld zone 4 is detected not with said length as a reference but with the torch nozzle 5 as a reference. More specifically, the wire is held retracted into the tip 7 and the torch nozzle 5 is moved in this state from the vertical state to the vertical direction and horizontal direction. The moving distance (h) until the top end of the tip 7 contacts a lower plate 2 of the base metal 1 and the moving distance (l) until the side face of the nozzle 8 contacts the upper plate 3 are measured. The position of the contact point 4a is determined from the distance (h), (l). The contact of the torch nozzle 5 and the base metal 1 is electrically measured by a touch sensor **power source** and the **distances** (h), (l) are **measured** by making use of the short circuit state which arises therebetween.

46/9/5 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013540632 **Image available**
WPI Acc No: 2001-024838/200103
XRPX Acc No: N01-019374
Toboy device
Patent Assignee: SONY CORP (SONY)
Inventor: INOUE M; NOMA H
Number of Countries: 007 Number of Patents: 005
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200067960	A1	20001116	WO 2000JP2988	A	20000510	200103	B
EP 1112821	A1	20010704	EP 2000925595	A	20000510	200138	
			WO 2000JP2988	A	20000510		
CN 1304346	A	20010718	CN 2000800823	A	20000510	200163	
KR 2001053488	A	20010625	KR 2001700437	A	20010110	200173	
US 6415203	B1	20020702	WO 2000JP2988	A	20000510	200248	
			US 2001743293	A	20010312		

Priority Applications (No Type Date): JP 99165756 A 19990510; JP 99129275 A 19990510
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200067960	A1	J	57	B25J-013/00	

Designated States (National): CN JP KR US
Designated States (Regional): DE FR GB
EP 1112821 A1 E B25J-013/00 Based on patent WO 200067960
Designated States (Regional): DE FR GB
CN 1304346 A B25J-013/00
KR 2001053488 A B25J-013/00
US 6415203 B1 G06F-019/00 Based on patent WO 200067960

Abstract (Basic): WO 200067960 A1

NOVELTY - According to input information, a feeling/instinct model is altered, a motion of a movable part one end of which is connected rotatably in one or more **directions** is **determined** , the remaining power of a **battery** is measured, the internal temperature of the body part is measured when the measured remaining power is lower than a predetermined level, and the posture of the **robot** device is changed to a predetermine done or the **robot** device is allowed to exhibit a predetermined action when the measured internal temperature is above a predetermined value.

USE - Toboy device

DESCRIPTION OF DRAWING(S) - battery sensor (12)
heat sensor (13)
internal sensor section (14)
microphone (15)
touch sensor (17)
sensor input processing section (50)
feeling/instinct model section (51)
action determining mechanism section (52)
posture change mechanism section (53)
control mechanism section (54)
actuator (7A1,7A2,5AA1)
pp; 57 DwgNo 11/18

Title Terms: DEVICE
Derwent Class: P62; T01; W04
International Patent Class (Main): B25J-013/00; G06F-019/00
International Patent Class (Additional): B25J-005/00
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): T01-P02; W04-X03E5

46/9/6 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

012238724 **Image available**
WPI Acc No: 1999-044832/199904
XRPX Acc No: N99-032730

Hi-fidelity graphic rendering method of 3D objects for robotic **simulation - involves dynamically** analyzing **parameters such as** distance , **size and** regeneration **angle, to determine whether rendered object should undergo LOD transformation**

Patent Assignee: DENEB ROBOTICS INC (DENE-N)
Inventor: HARRISON J P
Number of Countries: 001 Number of Patents: 001
Patent Family:
Patent No Kind Date Applicat No Kind Date Week
US 5844562 A 19981201 US 96672704 A 19960628 199904 B

Priority Applications (No Type Date): US 96672704 A 19960628
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
US 5844562 A 7 G06T-017/00

Abstract (Basic): US 5844562 A

The method involves storing data relating to object, represented by several polygons, in 3D space. The parameters such as distance, size and regeneration angle, are dynamically analysed to determine whether rendered object should undergo LOD transformation. Then, a virtual view port is created to view the objects.

The data relating to object in 3D space is transformed into data defining single image mapped polygon. The single image mapped polygon of object is dynamically displayed in place of image as represented by several polygons.

USE - For mass production in factory.

ADVANTAGE - Generates true representation of original geometric data without sacrificing rendering times or animation rates. Maintains virtual fidelity to original object through use of texture maps.

Dwg.6/6

Title Terms: FIDELITY; GRAPHIC; RENDER; METHOD; OBJECT; **ROBOT** ; SIMULATE; DYNAMIC; PARAMETER; DISTANCE; SIZE; REGENERATE; ANGLE; DETERMINE; RENDER; OBJECT; TRANSFORM

Index Terms/Additional Words: LEVEL; OF; DETAIL

Derwent Class: T01

International Patent Class (Main): G06T-017/00

File Segment: EPI

Manual Codes (EPI/S-X): T01-J10C4; T01-J10C5

46/9/7 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

008105322 **Image available**

WPI Acc No: 1989-370433/198950

XRPX Acc No: N89-281954

Automated three-dimensional shape determination - with shadow lengths and locations measured by electronic camera which generates signals indicative of shadow image

Patent Assignee: UNIV CASE WESTERN RESERVE (UYCA-N)

Inventor: RAVIV D

Number of Countries: 001 Number of Patents: 001

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 4873651	A	19891010	US 8741041	A	19870421	198950	B

Priority Applications (No Type Date): US 8741041 A 19870421

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 4873651	A		25		

Abstract (Basic): US 4873651 A

Radiant energy, such as light is projected from a parallel ray source at the object at a number of different angles relative to a reference surface w.r.t. which the object is placed. The lengths and locations of shadows cast by the object are measured as a function of the angle of the light rays. The location of the surface of the object relative to the reference surface is determined from the shadow lengthsa and locations from the angles at which the respective shadow lengths are created.

Pref. the shadow lengths and locations are measured by an electronic camera that generates electrical signals indicative of the shadow image. These signals are pref. received by a computer that determines the location of the surface of the object relative to the reference surface. Pref. the **computer** also controls the **position** of the **energy source** . The method is relatively insensitive to variations in measurement and signal processing conditions. The position information produced in applying the method may be used in many applications, e.g. for positioning a **robot** gripper to retrieve a part from a bin.

USE - For reconstructing the surface, i.e. the third dimension, of a three-dimensional object from two-dimensional information, e.g. for positioning **robot** gripper.

1A/20

Title Terms: AUTOMATIC; THREE-DIMENSIONAL; SHAPE; DETERMINE; SHADOW; LENGTH ; LOCATE; MEASURE; ELECTRONIC; CAMERA; GENERATE; SIGNAL; INDICATE; SHADOW ; IMAGE

Index Terms/Additional Words: **ROBOT** ; MANIPULATE

Derwent Class: T01; T04; T06; X25
International Patent Class (Additional): G06F-015/20
File Segment: EPI
Manual Codes (EPI/S-X): T01-J10A; T01-J10C; T04-D; T06-D07B; X25-A03E;
X25-A03F
?

File 239:Mathsci 1940-2002/Sep
(c) 2002 American Mathematical Society
File 9:Business & Industry(R) Jul/1994-2002/Jul 29
(c) 2002 Resp. DB Svcs.
File 15:ABI/Inform(R) 1971-2002/Jul 30
(c) 2002 ProQuest Info&Learning
File 141:Readers Guide 1983-2002/Jun
(c) 2002 The HW Wilson Co
File 484:Periodical Abs Plustext 1986-2002/Jul W3
(c) 2002 ProQuest
File 608:KR/T Bus.News. 1992-2002/Jul 30
(c)2002 Knight Ridder/Tribune Bus News
File 813:PR Newswire 1987-1999/Apr 30
(c) 1999 PR Newswire Association Inc
File 613:PR Newswire 1999-2002/Jul 30
(c) 2002 PR Newswire Association Inc
File 635:Business Dateline(R) 1985-2002/Jul 30
(c) 2002 ProQuest Info&Learning
File 810:Business Wire 1986-1999/Feb 28
(c) 1999 Business Wire
File 610:Business Wire 1999-2002/Jul 30
(c) 2002 Business Wire.
File 369:New Scientist 1994-2002/Jul W1
(c) 2002 Reed Business Information Ltd.
File 370:Science 1996-1999/Jul W3
(c) 1999 AAAS
File 16:Gale Group PROMT(R) 1990-2002/Jul 30
(c) 2002 The Gale Group
File 47:Gale Group Magazine DB(TM) 1959-2002/Jul 30
(c) 2002 The Gale group
File 148:Gale Group Trade & Industry DB 1976-2002/Jul 30
(c)2002 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
(c) 1999 The Gale Group
File 275:Gale Group Computer DB(TM) 1983-2002/Jul 30
(c) 2002 The Gale Group
File 570:Gale Group MARS(R) 1984-2002/Jul 30
(c) 2002 The Gale Group
File 621:Gale Group New Prod.Annou.(R) 1985-2002/Jul 30
(c) 2002 The Gale Group
File 624:McGraw-Hill Publications 1985-2002/Jul 30
(c) 2002 McGraw-Hill Co. Inc
File 634:San Jose Mercury Jun 1985-2002/Jul 28
(c) 2002 San Jose Mercury News
File 636:Gale Group Newsletter DB(TM) 1987-2002/Jul 30
(c) 2002 The Gale Group
File 647:CMP Computer Fulltext 1988-2002/Jul W4
(c) 2002 CMP Media, LLC
File 674:Computer News Fulltext 1989-2002/Jul W3
(c) 2002 IDG Communications

Set	Items	Description
S1	168372	ROBOT? ? OR ROBOTIC OR TOYROBOT? OR ROBOTTOY? OR ROBOTPET? OR PETROBOT? OR ANIMALROBOT? OR ROBOTANIMAL? OR AIBO OR ROBOTDOG? OR DOGROBOT?
S2	35748	TELEOPERATOR? OR TELEOPERATER? OR TELE()(OPERATOR? OR OPERATER?) OR MECHATRONIC? OR SERVOMECHANISM? OR SERVO()MECHANISM? OR AUTOMATA OR AUTOMATON?
S3	41	AUTOMATED(1W)MECHANICAL()(DEVICE? OR MANIPULAT? OR APP?? OR APPARATUS? OR INSTRUMENT????? ? OR EQUIPMENT? OR INVENTION? OR UNIT? ? OR ASSEMBL? OR APPLIANCE? OR SYSTEM? ?)
S4	15203972	PICKUP OR PICK???()UP OR RECOGNI? OR DETECT? OR FIND? OR FOUND OR READ??? OR DISCRIMINAT? OR IDENTIF? OR SENS??? OR SCAN OR SCANS OR SCANNED OR SCANNING
S5	1046879	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(IMAGE? OR INFORMATION OR DATA OR PRINT OR PRINTED OR 3D OR DIMENSION? OR COLOR? OR COLOUR? OR PATTERN?)
S6	143001	(S4 OR RECEIV? OR REPOND? OR RESPONSE? OR RECEPT?)(2N)(BAR-

COD? OR BAR()(CODE? ? OR CODING) OR SIGNAL??? OR UPC OR UPCS - OR SKU OR SKUS OR 2D OR STEREOSCOP?)

S7 4055 (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(STEREOGRA? OR HOLOGRA? OR CUBIC OR VOLUMETRIC OR MULTIDIMENSION-?)

S8 7649 (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(UNIVERSAL()PRODUCT OR IDENTIF? OR ID)()(CODE? ? OR CODING)

S9 10244017 TRANSMIT? OR TRANSMIS? OR SEND? OR SENT OR RECEIV? OR EMIT? OR EMIS? OR EMANAT?

S10 115755 S9(2N)(LIGHT OR PHOTIC? OR INFRARED? OR RADIA????? OR SOUND? ? OR SOUNDWAVE? OR AUDIO OR AUDIOWAVE? OR RADIOWAVE? OR MAGNETICWAVE? OR MAGNETIC)

S11 7864 S10(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENSITIV? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL?-??? OR WAVE? ? OR SONIC? ?)

S12 15722932 RANGE? OR BEAR??? OR DISTAN? OR DIRECTION? OR LOCAT? OR SITUAT?? OR PLACEMENT? OR EMPLAC? OR POSITION? ? OR VECTOR? OR - PLACED OR PATH OR COURSE

S13 8217548 NAVIGAT? OR HEADING OR ORIENTATION OR ROUTE? OR ROUTING OR WAY

S14 723792 S12-S13(3N)(CALCULAT? OR MEASUR? OR COMPUT? OR GAUG? OR ASSESS? OR ANALYS? OR ANALYT? OR ANALYZ? OR DETERMIN? OR DET? ? OR QUANTIF? OR DERIV?)

S15 293393 S12:S13(3N)(MENSUR? OR EVALUAT? OR FIGUR??? OR TABULAT? OR CALIBRAT? OR ESTIMAT? OR APPROXIMAT?)

S16 4554 S1:S3(S)S5:S8

S17 3252 S1:S3(S)S14:S15

S18 177894 S9(2N)(PHOTOACOUSTIC? OR PHTORADIA? OR PHOTOSENS? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? OR SIGNAL? OR WAVE? ? OR SONIC? ?)

S19 1177 S1:S3(S)(S10 OR S18)

S20 571395 REGENERAT? OR REENERGI? OR RECHARG? OR BATTERY? OR BATTERIES

S21 4080 (CHARGE? ? OR CHARGING)()(STATION? ? OR SOURCE?)

S22 185644 SOURCE?(2N)(POWER OR ENERGY OR ELECTRICITY OR ELECTRICAL)

S23 1051 S14:S15(5N)S20:S22

S24 12 S1:S3(S)S23

S25 18080 S14:S15(5N)(CHARGE? ? OR CHARGING OR POWER OR ENERGY OR ELECTRICITY OR ELECTRICAL OR (FUEL OR ELECTROCHEMICAL)()CELL? ?)

S26 58 S1:S3(S)S25

S27 193250 (SEARCH? OR LOCAT? OR FIND? OR FOUND OR SEEK? OR LOOK?)(3N-)(CHARGE? ? OR CHARGING OR POWER OR ENERGY OR ELECTRICITY OR - ELECTRICAL OR (FUEL OR ELECTROCHEMICAL)()CELL? ?)

S28 58 S14:S15(5N)(FUEL OR ELECTROCHEMICAL)()CELL? ?

S29 0 S1:S3(S)S28

S30 82 S1:S3(S)S12:S13(10N)S27

S31 152 S24 OR S28 OR S30

S32 50 S31/2000:2002

S33 102 S31 NOT S32

S34 76 RD (unique items)

?t34/3,k/all

34/3,K/1 (Item 1 from file: 239)

DIALOG(R)File 239:Mathsci

02064312 MR 89a#76058

Two cellular automata for plasma computations.

Large nonlinear systems (Santa Fe, N.M., 1986).

Montgomery, David (Department of Mathematics, Dartmouth College, Hanover, 03755, New Hampshire)

Doolen, Gary D. (Los Alamos National Laboratory, Los Alamos, 87545, New Mexico)

Corporate Source Codes: 1-DTM; 1-LANL

Complex Systems

Complex Systems, 1987, 1, no. 4, 831--838. ISSN: 0891-2513

Language: English

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: MEDIUM (15 lines)
Reviewer: Summary

Summary: ``Plasma applications of computational techniques based on cellular **automata** are inhibited by the long-range nature of electromagnetic forces. One of the most promising features of cellular **automata** methods has been the parallelism that becomes possible because of the local nature of the...
...simulations. Because it is in the nature of a plasma that volume forces originate with **distant charges** and currents, **finding** plasma cellular **automata** becomes largely a search for tricks to circumvent this nonlocality of the forces. We describe **automata** for two situations where this appears possible: two-dimensional magnetohydrodynamics and the one-dimensional electrostatic...

34/3,K/2 (Item 1 from file: 9)
DIALOG(R)File 9:Business & Industry(R)
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02466333
OMRON Develops a Robot Closest Ever to Human
(Marvel is the name of OMRON's two-armed, autonomous robot that can understand human speech and gestures and follows instructions)
Japan Industrial Journal, p 1
May 13, 1999
DOCUMENT TYPE: Business Newspaper (Japan)
LANGUAGE: Japanese RECORD TYPE: Abstract

ABSTRACT:
OMRON has developed a two-armed, autonomous **robot** called the Marvel. The **robot** can understand human speech and gestures and follows instructions. Since it has passed the test of carrying a desk with a person, Marvel is the first **robot** to succeed in cooperative work. The 1.7-meter tall **robot** has a cart base as its legs which allows omnidirectional motion, two arms with seven...

...axis force-sensing sensors. A CCD camera is installed in its head and four personal **computers** are **placed** in a torso. A **battery** powers Marvel continuously for one hour. Currently, there is no plan to market Marvel.
...

34/3,K/3 (Item 2 from file: 9)
DIALOG(R)File 9:Business & Industry(R)
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01526642
Robot research taking cues from nature
(Nagoya University researchers are using the human immune system as a model in developing a robot control mechanism)
Nikkei Weekly, v 34, n 1727, p 10
June 17, 1996
DOCUMENT TYPE: Journal (Japan)
LANGUAGE: English RECORD TYPE: Abstract

ABSTRACT:
Nagoya University researchers are using the human immune system as a model in developing a **robot** control mechanism which chooses the most appropriate response when faced with a threatening situation. Typical **robot** control systems provide the machine with patterns to choose from when avoiding and moving around objects. The artificial immune network does this but also accounts for such factors as dwindling **energy** supply and the **location** of the nearest fueling station. When the sensors detect an obstacle, the best avoidance response...

...the external "enemy," defined as a combination of obstacle and fuel level. There is also **robot** research being conducted at the Institute of

Physical & Chemical Research, using the insect world as a guide to designing a type of electronic pheromone that groups of **robots** can use to communicate. **Robots** are equipped with several battery-powered devices combining a central processing unit, memory chip and...

...radio transmitter. These are placed at strategic locations, such as dangerous obstacles, which alert other **robots** and helps them respond appropriately. ...

34/3,K/4 (Item 1 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01577193 02-28182
Fuel cells for the masses
Chambers, Ann
Power Engineering v102n1 PP: 10 Jan 1998
ISSN: 0032-5961 JRNL CODE: PEG
WORD COUNT: 742

...TEXT: is the in-home power plant, being developed by Plug Power LLC. "In the same **way** personal **computers** have replaced mainframes, we believe **fuel cells** will reduce the electric industry's reliance on large, centrally located power plants," said Anthony...

34/3,K/5 (Item 2 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01227679 98-77074
Product focus
Anonymous
Robotics World v14n2 PP: 41-47 Summer 1996
ISSN: 0737-7908 JRNL CODE: RBW
WORD COUNT: 1797

...TEXT: sensor for measuring off-axis forces and providing overload protection up to 2,000% of **range** . The company said the sensor is **finding** **robotic** applications in **electrical** and mechanical assembly, product testing and material handling.

The system consists of a transducer shielded...

34/3,K/6 (Item 3 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

01091885 97-41279
Fixed infrared gas analysers for safe, efficient landfill gas flaring
Anonymous
Sensor Review v15n3 PP: 38 1995
ISSN: 0260-2288 JRNL CODE: SEN
WORD COUNT: 411

...TEXT: repeatability of readings. The analyser runs off a rechargeable battery and features a long-lived **electrochemical** **cell** for measuring oxygen, and automatic **measurement** **range** selection according to the gas concentration in the sample.

For further information contact Tony Trocian...

34/3,K/7 (Item 4 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

00944986 95-94378
Enabling technology for a masonry building advanced robot
Chamberlain, D A
Industrial Robot v21n4 PP: 32-37 1994
ISSN: 0143-991X JRNL CODE: IRO
WORD COUNT: 4648

...TEXT: been prepared to cover both the pre-processing and run-time requirements.

(10) With the **robot** cell it was found that the run-time productivity was greatly enhanced by maximum use of pre-processing, other than where cell components were relocated beyond the **location** of sensor **ranges** . By the available processing **power** , automatic **searches** for grossly relocated components such as the conveyor could exceed several minutes in duration or even fail. As varying competition for space is likely for construction **robot** cell components, the matter of large scale, auto-initialization merits further investigation.

(11) Substantial sensing...

34/3,K/8 (Item 5 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

00892664 95-42056
Quality body side assembly system for SAAB
Anonymous
Industrial Robot v21n2 PP: 35-36 1994
ISSN: 0143-991X JRNL CODE: IRO
WORD COUNT: 718

...TEXT: weld gun and gripper for loading parts, while robot 4 operates inside the line.

Thus, **robot** 5 has first to collect the sub-assemblies at a manually **charged** loading table and **locate** them in the welding fixture at Station 30. It then changes to its welding mode and adds its support to **robot** 4 in order to complete a total of 96 spot welds within the cycle time...

34/3,K/9 (Item 6 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

00823753 94-73145
A robot to milk cows
Wittenberg, Gunter
Industrial Robot v20n5 PP: 22-25 1993
ISSN: 0143-991X JRNL CODE: IRO
WORD COUNT: 2425

...TEXT: attaching the teat cups is probably the most difficult to automate and many designs of **robot** have been proposed for it. A milking parlour does not offer a well-controlled **robot** environment. The cow generates contamination; much water is dispersed over equipment to keep it clean...

... cause sensors to short out. Anything low is likely to be kicked. Electrical and hydraulic **robots** have been used, with ultrasonic sensors and vision systems for teat **location** . **Electrical robots** can be affected by water and may become unsafe; the oil used in hydraulic **robots** is a pollution risk.

The Silsoe robot is said to be unique, in that it...

34/3,K/10 (Item 7 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

00821473 94-70865
Software passes the torch to robots
Puttre, Michael
Mechanical Engineering v116n2 PP: 58-61 Feb 1994
ISSN: 0025-6501 JRNL CODE: MEG

...ABSTRACT: benefited from a wealth of 3rd-party software development. Most of the control software for **robotic** welders is written by the manufacturers of the **robots** themselves. Traditional programming of **robotic** welders is done through teach pendants and control panels on the machines themselves. **Robot** welders have payload capabilities ranging from a dozen to hundreds of pounds and repeatability performances measuring from hundreths to hundred-thousandths of an inch. Since every **robot** and work cell is different, it is difficult for a generic program to capture all of the variables required for each installation. According to Chris Anderson of Motoman Inc., **calibrating** the **power sources**, **positions**, and other data for a welding job requires considerable expertise on the part of the...

... panels and teaching pendant displays all have made it easier for operators to tell their **robots** what to do. Modeling software for simulating work cells and graphically creating programs also have...

34/3,K/11 (Item 8 from file: 15)
DIALOG(R)File 15:ABI/Inform(R)

00747113 93-96334
Integrated robotic handling systems improve inspection productivity
Rogers, Arthur
Robotics World v11n2 PP: 15-17 Summer 1993
ISSN: 0737-7908 JRNL CODE: RBW
WORD COUNT: 1726

ABSTRACT: Integrated **robotic** systems are finding application in the field of x-ray inspection for process or quality control. A number of significant advances in technology have made distributed **robotic** axes possible and affordable. An example of this breed of **robots** is a system containing 11 axes of computer-controlled motion that was developed for the Navy to inspect castings, using high- **energy** x-rays to **locate** inclusions, voids, and cracks. There are numerous possible applications for distributed **robotic** motions under the control of a PC-style computer. One example is a system built...

... provide inspection of tactical rocket motors in a heavily shielded blockhouse. All 3 of the **robotic** systems discussed share a number of common features, including **robotic** axes distributed among various subsystems with each axis being fully integrated into the mechanics of...

34/3,K/12 (Item 1 from file: 484)
DIALOG(R)File 484:Periodical Abs Plustext

03776061 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Modified carbon electrodes for microscale electrochemistry
Mocellin, Enrico; Goscinska, Teresa
Journal of Chemical Education (ICHE), v75 n6, p771-772, p.2
Jun 1998
ISSN: 0021-9584 JOURNAL CODE: ICHE
DOCUMENT TYPE: Feature
LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 1083

TEXT:
... from organic solutions. The electrode, whose surface is coated with a thin film of the **analyte** , is **placed** in a conventional aqueous **electrochemical cell** and redox reactions are observed in the usual manner.
Pyrolytic carbon offers access to a...

34/3,K/13 (Item 1 from file: 813)
DIALOG(R)File 813:PR Newswire
(c) 1999 PR Newswire Association Inc. All rts. reserv.

1294823 NYTH009
Fuel Cells are Generating Power and Attention in Stationary Applications

DATE: June 18, 1998 15:28 EDT WORD COUNT: 684

... estimated at between 40 to 50 units a year, of approximately 200kW capacity. Recent industry **estimates** have **placed** the demand for **fuel cells** between 2,500 and 6,000 megawatts by 2010. Cinergy Corporation has publicly stated that...

34/3,K/14 (Item 2 from file: 813)
DIALOG(R)File 813:PR Newswire
(c) 1999 PR Newswire Association Inc. All rts. reserv.

1232125 DEM006
Delphi Opens Electrical and Electronics World For Automakers With Integrated Vehicle E E System

DATE: February 23, 1998 12:00 EST WORD COUNT: 1,138

...packaging concerns. Improvements are realized in product reliability and installation time with added flexibility for **location** of devices.
Electrical /Electronic Centers -- Traditional electrical centers provide a centralized **location** for high- and low-current bussing, circuit protection and switching devices. Delphi is now embedding...

...subsystems use multiplex nodes with integrated electronics such as smart connectors, sensors, switches and actuators (**mechatronics**). The nodes are linked via a three-lead multi-drop wiring system featuring multiplexed data ...

34/3,K/15 (Item 3 from file: 813)
DIALOG(R)File 813:PR Newswire
(c) 1999 PR Newswire Association Inc. All rts. reserv.

1171284 DETU018
Plug Power Becomes First to Use Gasoline in Fuel Cell

DATE: October 21, 1997 10:00 EDT WORD COUNT: 513

... contained systems with few moving parts will provide ultimate electric service reliability.

"In the same **way** personal **computers** have replaced mainframes, we believe **fuel cells** will reduce the electric industry's reliance on large, centrally located power plants," said Anthony...

34/3,K/16 (Item 1 from file: 613)
DIALOG(R)File 613:PR Newswire
(c) 2002 PR Newswire Association Inc. All rts. reserv.

00219002 19991119PHPGDAYA (USE FORMAT 7 FOR FULLTEXT)

PR Newswire Pittsburgh Daybook for Friday, November 19
PR Newswire
Friday, November 19, 1999 07:45 EST
JOURNAL CODE: PR LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
DOCUMENT TYPE: NEWSWIRE
WORD COUNT: 111

TEXT:
EVENT: EC, the Electric Choice **Robot** , will attend Pittsburgh's "Light-Up Night." He will be spreading good cheer to consumers...

...opportunity to choose an electric supplier - as well as information on how to shop for **electricity** .

LOCATION : in front of Fifth Avenue Place on Stanwix Street, downtown Pittsburgh
CONTACT: Tom Cuddy, 412...

34/3,K/17 (Item 1 from file: 635)
DIALOG(R)File 635:Business Dateline(R)

1106956 00-82676
GM claims fuel cell breakthrough: Researchers solve puzzle of subfreezing car engine starts
Phillips, David
Detroit News (Detroit, MI, US) pB.3
PUBL DATE: 991005
WORD COUNT: 485
DATELINE: Honeoya Falls, NY, US, Middle Atlantic

TEXT:

...hurdle.

Engineers at GM's newest research facility near Rochester, N.Y., say they have **figured** out a **way** to start **fuel - cell** vehicles in subfreezing temperatures, an important advance needed for commercialization of the low-pollution autos...

34/3,K/18 (Item 2 from file: 635)
DIALOG(R)File 635:Business Dateline(R)

0859261 98-19619
Plug Power becomes first to use gasoline in fuel cell
Bean, Mary Kay
PR Newswire (New York, NY, US) p1
PUBL DATE: 971021
WORD COUNT: 479
DATELINE: Latham, NY, US, Middle Atlantic

TEXT:

...contained systems with few moving parts will provide ultimate electric service reliability.

"In the same **way** personal **computers** have replaced mainframes, we believe **fuel cells** will reduce the electric industry's reliance on large, centrally located power plants," said Anthony...

34/3,K/19 (Item 3 from file: 635)

DIALOG(R)File 635:Business Dateline(R)
(c) 2002 ProQuest Info&Learning. All rts. reserv.

0722790 96-81286
Knowledge gets distilled in the Invention Machine
Derringer, Pam
MASS HIGH TECH (Watertown, MA, US), V14 N23 p1
PUBL DATE: 960722
WORD COUNT: 1,132
DATELINE: Cambridge, MA, US, New England

TEXT:

...a direct methanol fuel cell. When imbedded in a device, the chip-sized optical sensor **measures** rotational speed and **direction** of movement. The **fuel cell** is being developed to work at very low temperatures.

In each case, Blosiu said, Invention...

34/3,K/20 (Item 4 from file: 635)
DIALOG(R)File 635:Business Dateline(R)
(c) 2002 ProQuest Info&Learning. All rts. reserv.

0526646 94-81209
ElekTruk seeks to electrify a vehicle market
Aguilera, Mario C
San Diego Daily Transcript (San Diego, CA, US) sA p1
PUBL DATE: 940826
WORD COUNT: 419
DATELINE: Chula Vista, CA, US

TEXT:

...all those specifications. The key to the vehicle, he said, is a proprietary patent-pending **robotic** charging system. The **robot** monitors charging levels and operator re-charging functions. Martija kept quiet on a secondary part of the technology, the **charging** hook-up **locations** .

The company plans to conduct research and development, administration and testing in San Diego. Manufacturing...

34/3,K/21 (Item 5 from file: 635)
DIALOG(R)File 635:Business Dateline(R)
(c) 2002 ProQuest Info&Learning. All rts. reserv.

0140118 90-23091
Bank of Boston Tries Something New in Canton
Emigh, Jacqueline
Boston Business Journal (Boston, MA, US), V10 N11 s1 p29
PUBL DATE: 900507
WORD COUNT: 1,166
DATELINE: Boston, MA, US

TEXT:

The wastebaskets are made of wire. The desks have no drawers. Stacks of cubbyholes are **located** here and there. **Electrical** cabling for computer hookups runs along the ceiling, disguised by a bright yellow conveyor belt. A **robot** moves about the floor, delivering the mail.

No, this isn't a passage from a...

34/3,K/22 (Item 1 from file: 369)
DIALOG(R)File 369:New Scientist

(c) 2002 Reed Business Information Ltd. All rts. reserv.

00119721 16021555.400 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Wiggling through the waves
ADAMS, AMY; Amy Adams is a journalist based in Santa Cruz
New Scientist, vol. 160, no. 2155, p. 32
October 10, 1998
LANGUAGE: English RECORD TYPE: Fulltext DOC. TYPE: Journal
WORD COUNT: 2475

(USE FORMAT 7 OR 9 FOR FULLTEXT)

TEXT:
...accurate record of its position.
If they fulfil their designers' expectations in military service, the **robot** lampreys could have an exciting time in civilian life too. "We know more about the...

...and marine biologists are struggling to find a way to study it". He believes his **robots** could step, or wiggle, into the breach. Swap mine-detecting sensors for video cameras or chemical **analysers** , and develop a **way** to **recharge** their **batteries** underwater and Ayers's **robots** could explore ocean floors, collect marine samples or monitor the environment. "Getting some cheap device...

34/3,K/23 (Item 1 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2002 The Gale Group. All rts. reserv.

06195547 Supplier Number: 54116168 (USE FORMAT 7 FOR FULLTEXT)
Drydock launches advanced fab technology.(includes related article at port's panel line)(Port Weller Drydocks)
Canadian Machinery and Metalworking, v94, n1, p60(2)
Jan-Feb, 1999
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 1009

... robot and work floor for welding.
The welding of stiffeners is carried out using a **robotic** welding gantry designed to fillet weld the stiffeners to plate components in vertical and horizontal...

...Welding can be continuous or intermittent. All controls for operating the welding portal and the **robot** are placed on the portal, providing the operators with an uninterrupted view. The welding gantry travels on separate rails on the floor with the **power** sources **located** on the wheel carriage.
Training is vital to maintaining the business' international reputation. In 1995...

34/3,K/24 (Item 2 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)
(c) 2002 The Gale Group. All rts. reserv.

05361325 Supplier Number: 48154314 (USE FORMAT 7 FOR FULLTEXT)
Study Focuses on Gas-to-Liquids
Battery & EV Technology, v22, n8, pN/A
Dec 1, 1997
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 168

(USE FORMAT 7 FOR FULLTEXT)
TEXT:
...1557; Tel: 303/571- 4158), will provide technical support for ITN Energy

Systems, Inc. to **evaluate** co- **locating** Gas-to-Liquids (GTL) **fuel cell** plants for the production of stationary power. Primary end products of the Rentech's GTL...

34/3,K/25 (Item 3 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

04802310 Supplier Number: 47066845 (USE FORMAT 7 FOR FULLTEXT)
NEW 30-, 60-AMP SURGE SUPPRESSORS PROTECT COMPUTERS, TRAFFIC LIGHTS, MANUFACTURING ROBOTS, OTHER ELECTRICAL DEVICES
News Release, pN/A
Jan 27, 1997
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 595

(USE FORMAT 7 FOR FULLTEXT)
TEXT:
...for the new products would be to safeguard products such as computers, traffic light controls, **robotic** manufacturing systems and process control equipment from potential failure due to electrical spikes. Innovative Technology...

...SP models for individual equipment, IT manufacturers and distributes TVSS products can be installed at **electrical** service entrance **locations** where **electrical power** is delivered from the utility or at the individual point-of-use stations where the...

34/3,K/26 (Item 4 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

04728638 Supplier Number: 46960999 (USE FORMAT 7 FOR FULLTEXT)
REPEAT/Xoom Lowers the Boom: World's Largest "spam" Unleased Upon Six Million PC's; Internet Startup Proves Point by Sending Unsolicited Email to Six Million Users to Promote Email Robot, Designed to Guard Against Such Spams!
Business Wire, p12101003
Dec 10, 1996
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 353

... on a user's ability to receive other email. Massa also added that the Email **Robot** product will be available to educational, government and non-profit institutions at no **charge** .
Xoom Software is **located** at 433 California Street, Suite 910, San Francisco, Calif. 94104. Telephone: 415/445-2525, fax...

34/3,K/27 (Item 5 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

04723788 Supplier Number: 46954340 (USE FORMAT 7 FOR FULLTEXT)
Xoom Lowers the Boom: World's Largest "spam" Unleased Upon Six Million PC's; Internet Startup Proves Point by Sending Unsolicited Email to Six Million Users to Promote Email Robot, Designed to Guard Against Such Spams!
Business Wire, p12090135
Dec 9, 1996
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 353

... on a user's ability to receive other email. Massa also added that the Email **Robot** product will be available to educational, government and non-profit institutions at no **charge** .
Xoom Software is **located** at 433 California Street, Suite 910, San Francisco, Calif. 94104. Telephone: 415/445-2525, fax...

34/3,K/28 (Item 6 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

03234649 Supplier Number: 44443496 (USE FORMAT 7 FOR FULLTEXT)
RICHARDS-WILCOX OVER-WAY CONVEYOR IDEAL FOR HEAVY LOADS
News Release, pN/A
Feb 16, 1994
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 234

... continuously through, or to stop at any point in, the production process. The upper track, **located** directly above, provides **power** for the operation.
OveR- **Way** is easily integrated with industrial **robots** , Computerized Integrated Manufacturing (CIM), and other advanced manufacturing methods. It has a 1, OOO-pound...

34/3,K/29 (Item 7 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

03093981 Supplier Number: 44215802 (USE FORMAT 7 FOR FULLTEXT)
RICHARDS-WILCOX OVER-WAY(R) CONVEYOR IDEAL FOR HEAVY LOADS
News Release, pN/A
Nov 5, 1993
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 133

... continuously through, or to stop at any point in, the production process. The upper track, **located** directly above, provides **power** for the operation.
OveR- **Way** is easily integrated with industrial **robots** , Computerized Integrated Manufacturing (CIM), and other advanced manufacturing methods. It has a 1,000-pound...

34/3,K/30 (Item 8 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

03040848 Supplier Number: 44134292
Robot Mimics Human Eyes, Improves Its Performance
Photonics Spectra, p25
Oct, 1993
Language: English Record Type: Abstract
Document Type: Magazine/Journal; Trade

ABSTRACT:
A **robot** vision system that deals with changes in the environment by imitating the performance of the...

...the U of Rochester's Center for Visual Science (CVS). The current approach to improving **robot** vision systems involves increasing processing power so that the **robot** can image every detail of its environment. But the U of Rochester researchers noted that...

...times every second, to perform vision-related tasks. They concluded that

the key to better **robots** was not more processing **power** , but **finding** a **way** for their vision systems to imitate human eyes. They have adopted an approach called 'active vision,' whereby the **robot** makes decisions based on sensory input from its environment. They have found that programming the **robot** to move its camera eyes in a human-like manner improves its abilities and simplifies its tasks. The researchers have made their **robot** play checkers, dodge tennis balls, search for objects and manipulate children's toys. ...

34/3,K/31 (Item 9 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

02151891 Supplier Number: 42796344 (USE FORMAT 7 FOR FULLTEXT)
Robotization in Japan Enhances Prospects for International Cooperation
Manufacturing Automation, v1, n6, pN/A
March, 1992
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 1425

... Trade and Industry (MITI) in Japan launched an 8-year national research project titled, Advanced **Robot** Technology. The project was aimed at developing **robots** capable of replacing human workers for performing operations in extremely harsh environments, including those **found** at nuclear **power** plants, at off-shore oil exploration sites, and in the **course** of disaster prevention.

The national project plays a central role in international cooperative research on...

34/3,K/32 (Item 10 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

01863838 Supplier Number: 42363593 (USE FORMAT 7 FOR FULLTEXT)
Doubling Up
Automotive News, v0, n0, p12i
Sept 16, 1991
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Tabloid; Trade
Word Count: 1120

... guns for prime coat and enamel exterior paint.

Vehicle interiors are painted by slide-mounted **robots** that reach into the bodies and coat insides and doors from the B-pillar back. Each **robot** uses a dual electrostatic spray gun, and has a built-in high-voltage **power** transformer **located** close to the spray head.

Robots also are used for low-volume, dealer-special-order...

34/3,K/33 (Item 11 from file: 16)
DIALOG(R)File 16:Gale Group PROMT(R)

01240660 Supplier Number: 41437493
ABB will supply GM with robots
Milwaukee Journal (WI), pC8
July 12, 1990
Language: English Record Type: Abstract
Document Type: Newspaper; Trade

ABSTRACT:
...New Berlin, WI) has been awarded a $3-4 mil contract to supply about 40 **robots** to General Motors, which will use the equipment in the assembly of Cadillac body parts. ABB was awarded the contract over other **robot** manufacturers because of the company's unique **robot** technology, according

to Carmen Calabrese, VP-genl mgr of ABB's automotive. Its **robots** have water, air and **power** lines **located** within the arm, which reduces the need for maintenance and gives the **robot** the capacity to reach more difficult areas in manufacturing operations. ABB's automotive division is located in Rochester Hills, MI. The **robots** will be made in Sweden, though some assembly will occur at its new Rochester Hills...

34/3,K/34 (Item 1 from file: 47)
DIALOG(R)File 47:Gale Group Magazine DB(TM)

03941435 SUPPLIER NUMBER: 14394886
How we tested. (Lab Report: Notebooks)
Fox, Richard; Platt, Stephen
Byte, v18, n11, p170(2)
Oct, 1993
ISSN: 0360-5280 LANGUAGE: ENGLISH RECORD TYPE: ABSTRACT

...ABSTRACT: the three aspects of screen quality evaluated were crispness, intensity/color range, and viewing-angle **range** . **Battery** life was **measured** using 'Thumper 2,' a **robotic** device running a program that mimics real-world word-processing use.

34/3,K/35 (Item 2 from file: 47)
DIALOG(R)File 47:Gale Group Magazine DB(TM)

03152515 SUPPLIER NUMBER: 06548846 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Sweaty Manny. (human-like robot designed at Battelle's Pacific Northwest Labs)
Fisher, Arthur
Popular Science, v233, n3, p10(2)
Sept, 1988
ISSN: 0161-7370 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 356 LINE COUNT: 00028

... support arm that helps the mannequin simulate walking, bending, squatting, and crawling in a prone **position** . Hydraulic devices **located** in each joint **power** the **robot** 's movements.
Manny's skeleton is formed of tubes and pivots, visible in the close
...

34/3,K/36 (Item 3 from file: 47)
DIALOG(R)File 47:Gale Group Magazine DB(TM)

02596007 SUPPLIER NUMBER: 00566005 (USE FORMAT 7 OR 9 FOR FULL TEXT)
The PC Interfaces with a HERO.
Goodlet, J.
PC Magazine, v3, n16, p146-149
Aug. 21, 1984
DOCUMENT TYPE: evaluation ISSN: 0888-8507 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT; ABSTRACT
WORD COUNT: 2557 LINE COUNT: 00191

... steer the robot and one that rotates the head. Three of the four batteries that **power** the **robot** are **located** here. The **robot** has two separate battery power systems, one for the electronic logic circuits and microprocessor and...

...for charging the batteries, the teaching pendant receptacle, and two cassette tape recorder connections. The **power** switch is also **located** on this cluster of components. The Torso
The torso is essentially a boxlike sheetmetal structure...

34/3,K/37 (Item 4 from file: 47)
DIALOG(R)File 47:Gale Group Magazine DB(TM)
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02442458 SUPPLIER NUMBER: 02992213 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Personal robots.
McComb, Gordon
Creative Computing, v9, p196(5)
Nov, 1983
ISSN: 0097-8140 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 3443 LINE COUNT: 00253

... the floor.
The White tape, which stretches from where RB5X is playing to the battery **charger** , helps the **robot** **find** his **way** back home. He follows the tape until he **finds** his **charger** , and plugs himself in. If he spots the middle of the tape and moves away from the charger, the **robot** automatically stops at the end of the tape, backs up, and retraces his steps.
RB5X...

34/3,K/38 (Item 5 from file: 47)
DIALOG(R)File 47:Gale Group Magazine DB(TM)
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02369520 SUPPLIER NUMBER: 02578315 (USE FORMAT 7 OR 9 FOR FULL TEXT)
The new wave of personal robots.
Computers & Electronics, v21, p37(5)
Jan, 1983
ISSN: 0745-1458 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 2235 LINE COUNT: 00163

... of white (reflective) tape leading from the battery charger to the area in which the **robot** is expected to be playing. When the photocell system takes over, RB automatically starts to...

...wrong end of the tape, it doesn's die of starvation because it automatically reverses **direction** and **seeks** out the **charger** at the other end.
RB can be enhanced by adding an option package that includes...

34/3,K/39 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2002 The Gale Group. All rts. reserv.

11515726 SUPPLIER NUMBER: 57165234 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Expect an ICE-y Reception to the New Millennium.
Ward's Auto World, NA
Nov, 1999
ISSN: 0043-0315 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 1201 LINE COUNT: 00098

... a low-tech reputation, but it will be highly advanced, highly efficient and hardly outmoded.
Figure it this **way** : Although **fuel** **cell** interests will have us believe that fuel cells are the path to automotive nirvana, the...

34/3,K/40 (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2002 The Gale Group. All rts. reserv.

10284337 SUPPLIER NUMBER: 20805066 (USE FORMAT 7 OR 9 FOR FULL TEXT)
A solid start to the millennium? (solid oxide fuel cells)(Cover Story)
Hart, David

Chemistry and Industry, n9, p344(4)
May 4, 1998 LANGUAGE: English
DOCUMENT TYPE: Cover Story ISSN: 0009-3068
RECORD TYPE: Fulltext
WORD COUNT: 3577 LINE COUNT: 00283

... be closer to production than the US version, though both require some more work. Ceramic **Fuel Cells** is **determined** that the **way** to bring costs down is to produce many of the same size systems (such as...

34/3,K/41 (Item 3 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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10170240 SUPPLIER NUMBER: 20357502 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Daimler-Benz and the no-emission vehicle.
Automotive Engineering, v105, n12, p112(2)
Dec, 1997 LANGUAGE: English
ISSN: 0098-2571 LINE COUNT: 00060 RECORD TYPE: Fulltext; Abstract
WORD COUNT: 741

... modern electric car depends on its battery, or how much power can be delivered. A **fuel - cell** vehicle's tank **determines** its **range**, while **fuel cell** size determines the amount of power to the wheels. Given the same storage volume for...

34/3,K/42 (Item 4 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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09436958 SUPPLIER NUMBER: 19328989 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Be afraid.... (future dominance of robots)
Rubenstein, Roy
Electronics Weekly, n1804, p16(2)
March 12, 1997 LANGUAGE: English
ISSN: 0013-5224 LINE COUNT: 00087 RECORD TYPE: Fulltext; Abstract
WORD COUNT: 1091

... To this aim they have developed motorised **robots**, dubbed the Seven Dwarfs. Initially the Dwarfs were pre-programmed to avoid objects using their...

...to learn such behaviour by trial and error as they traipse around. They can even **locate** **charging** stations once their batteries are low. Infra-red sensors have subsequently been added to enable...

34/3,K/43 (Item 5 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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09336578 SUPPLIER NUMBER: 19141133 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Electrostatic problems and ionization solutions in TFT-LCD production.
(thin-film transistor-driven liquid crystal displays)
Murakami, Toshio; Togari, Haruyuki; Steinman, Arnold
Solid State Technology, v40, n1, p99(4)
Jan, 1997 LANGUAGE: English
ISSN: 0038-111X LINE COUNT: 00218 RECORD TYPE: Fulltext
WORD COUNT: 2376

... these items conductive and assures that they are well grounded. When these grounded materials are **located** near the **charged** glass panels, they will suppress the field from the charge, giving inaccurate, low measurements no...

09436958 SUPPLIER NUMBER: 19328989 (THIS IS THE FULL TEXT)

Be afraid.... (future dominance of robots)

Rubenstein, Roy

Electronics Weekly, n1804, p16(2)
March 12, 1997
ISSN: 0013-5224 LANGUAGE: English RECORD TYPE: Fulltext; Abstract
WORD COUNT: 1091 LINE COUNT: 00087

ABSTRACT: University of Reading Cybernetics Professor Kevin Warwick warns that man's distinction of being the most intelligent entity in the planet is being endangered by robots. He points out that machines will eventually equal and then surpass man's intelligence. He points out to his work in the university where his team has built practical robots that can perform multiple tasks and learn from their experiences.

TEXT:

Robots taking over the world? That may sound far-fetched to you, but Professor of Cybernetics at the University of Reading, Kevin Warwick reckons in five years time we will not only be believing we'll be panicking. Roy Rubenstein plugged into his brain...

Is mankind's long rule as the planet's most intelligent entity about to end?

Kevin Warwick, Professor of Cybernetics at the University of Reading, certainly thinks so. He argues that sometime in the next 50 years, machine intelligence will at first match, and then exceed, that of man's.

"I'm afraid I do believe that," said Warwick. He reckons that such a development will be detrimental to mankind: man rules due to a superior intelligence and machines will ultimately do the same.

This credence given to machine intelligence is the result of practical robotic work undertaken at the University's Cybernetics department. The group's approach is to set machines basic tasks from which they can learn. "You need some critique or measure for the machine to known whether it is doing well or badly, so that it can change its behaviour in a positive way."

Using this approach Warwick's team has demonstrated some striking results using several relatively simple robots, dubbed the Seven Dwarfs (see box).

The Dwarfs learn from their environment and talk to each other via infra-red links. Using such capabilities the Dwarfs have already shown collective behaviour which parallels that of animals.

Unlike humans, the abilities of present machines are typically confined to one or two areas. For Warwick an intelligent machine is one that can tackle a range of tasks, and whose abilities can be investigated and tested much in the way humans are.

Warwick cites IBM's RS6000 SP Deep Blue super-computer to highlight the considerable progress being made in machine intelligence. Last year Deep Blue crushed world champion Gary Kasparov in a game of chess, even if it ultimately lost the match 4-2. What impresses him is the sheer processing power employed by Deep Blue to determine its moves. "The machine was being very competitive at what humans regard as requiring intelligence," said Warwick. "Only ten years ago humans were far better than machines at chess."

One example of the increasing influence of machines is the real-time systems used by finance houses for a range of stock exchange activities. "They act out activities based on their own experiences, and are allowed to," observes Warwick. "The systems do have an effect on the outside world."

Warwick agrees with the view of BT's head of research, Professor Peter Cochrane, that humans must partner with machines to progress (Electronics Weekly, March 5, pp12-13). However, he dismisses as simplistic Cochrane's view that laws of artificial intelligence can be written into systems to ensure they do not harm humans. "Its a nice idea but it's not practicable: cruise missiles are designed to break such rules."

He is equally dismissive of the claim that if machines become

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34/3,K/44 (Item 6 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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04535329 SUPPLIER NUMBER: 08797567 (USE FORMAT 7 OR 9 FOR FULL TEXT)
A flexible jukebox for 5.25-inch WORM and rewritable optical disk drives.
Augsburger, Wayne
Optical Information Systems, v10, n1, p28(7)
Jan-Feb, 1990
ISSN: 0886-5809 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 3974 LINE COUNT: 00318

... add-on to an existing system rack. The complete Model 5250 consists of a jukebox **robotic** unit with an optional power-tray module. All **power** supplies are **located** in the **power** supply module, separate from the jukebox. The power supply module converts facility AC power to DC power required by the **robotic** unit. Only DC voltages are input to the jukebox. Power supply modules can be configured...

34/3,K/45 (Item 7 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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02837785 SUPPLIER NUMBER: 04101193 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Laser cutting may be a bright spot in 1986.
Pond, James B.
Iron Age, v229, p22(1)
Jan 17, 1986
ISSN: 0021-1508 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 622 LINE COUNT: 00048

... distributors plan to sell laser cutting machinery in 1990.
Photo: Cincinnati Milacron's T3 electric **robot** has "through-the-arm' laser beam system for optimum **power** and precise **location** .

34/3,K/46 (Item 8 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
(c)2002 The Gale Group. All rts. reserv.

02173133 SUPPLIER NUMBER: 03396835 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Reduced labor. (the seven keys to machine tool productivity)
Harvey, Robert E.
Iron Age, v227, p42A26(4)
Aug 20, 1984
ISSN: 0021-1508 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 2784 LINE COUNT: 00221

... machines and processes. And because of the continuing dramatic drops in the price of microprocessor **power** , intelligence is **finding** its **way** into nearly all aspects of factory control. Numerical controls, sensors, motor controls, programmable controllers, guages, **robots** , personal computers--all the equipment the controls, measures, or analyzes--is growing smarter. That is...

34/3,K/47 (Item 9 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB
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02034935 SUPPLIER NUMBER: 03251438 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Resolver feedback coordinates painting robot.
Hydraulics & Pneumatics, v37, p52(2)
May, 1984
ISSN: 0018-814X LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT

WORD COUNT: 693 LINE COUNT: 00055

... and all connections are made with either 37 [deg.] -flare fittings or Oring seals.

The **power** unit is **located** remotely, where its electronic componentry is isolated from the highly flammable atmosphere. A 25-hp...

...main pump section, rated at 25 gpm and 2400 psi, supplies pressure fluid to the **robot** ; the gear pump section continuously circulates 9 gpm through a cooling and filtration loop.

Because...

34/3,K/48 (Item 1 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
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02322265
Remote Robots Provide Sensory Signals To Operator
Robotics World October, 1989 p. 12
ISSN: 0737-7908

Remote **robots** are being developed that supply sensory signals to the operator by JD Merritt, an experimental psychologist and consultant in Williamsburg, MA, who is the pioneer of the new concept. These **robots** are being developed to work in dangerous places where humans cannot go, such as the ocean floor, hazardous waste **locations** , nuclear **power** facilities, and even on the battlefield. An operator would wear a helmet that would obtain visual and auditory signals from the **robot** . These signals would make the operator feel like he was in the **robot** and the operator would be able to see and hear everything the **robot** sees and hears. The article further details the remote **robots** being developed to work in dangerous places that humans cannot. ...

34/3,K/49 (Item 2 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
(c) 1999 The Gale Group. All rts. reserv.

02139894
Robot Builders
Electronic Engineering Times March 6, 1989 p. 21
ISSN: 0192-1541

Battelle Memorial Inst has designed a **robotic** lunar vehicle capable of erecting a lunar radio astronomy observatory for NASA. The vehicle would ...

...slopes, transverse barriers up to 1-ft high or 1-m wide and have two **robotic** arms located toward the front of the vehicle. The rover, powered by 4 radio-isotope thermoelectric generators with lithium back-up **batteries** , would use a laser triangularly- **calibrated** inertial **navigation** system to map a crator located on the moon's far side before erecting the...

34/3,K/50 (Item 3 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
(c) 1999 The Gale Group. All rts. reserv.

02069307
Kumagai Gumi Develops Practical Painting Robot for Use Inside Nuclear Reactors
Comline Industrial Machinery & Mechanical Engineering November 9, 1988 p. 3

... Gumi Co., Ltd. (1861), a major construction company, has succeeded in developing a practical painting **robot** for use in the renovation of

walls inside nuclear power plants. The **robot** has already been put to use at a nuclear **power** generating facility **located** in Fukushima Prefecture. The **robot** weighs 400 kg and measures 1.5 m (L) x 1.2 m (W) x 0.5 m (H). The **robot** is controlled by a built-in computer and operates at a speed of 3 m/min. In operation, the **robot** moves up and down a wall while applying paint in a 50-cm-wide strip. The main features of the **robot** are that it performs dangerous work normally carried out by human workers and that it ...

34/3,K/51 (Item 4 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)

01834537
NEW MICROPROCESSOR BASED DISSOLVED HYDRAZINE MONITOR
News Release December 3, 1987 p. 1

... range of 0-100 ppb and 0-1000 ppb, automatically switching between high and low **ranges** . **Analysis** is achieved by a refurbishable **electrochemical cell** which produces a current proportional to the concentration of hydrazine in the process water. A...

34/3,K/52 (Item 5 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)

01746345
ROBOT WELDING GANTRY SYSTEM FOR MAXIMUM OUTPUT AND EFFICIENCY
News Release July 21, 1987 p. 1

Two new **robot** welding gantry concepts utilizing a gantry mounted **robot** and turntable are now available. The system is designed for maximum production by Miller Electric...

...Co., Appleton, Wisconsin. Operator can load and unload parts on one side of turntable while **robot** welds on the opposite side. After load/weld/unload cycle, the turntable rotates 180 degrees. Weld procedure is then repeated. A gantrty system may include the MR-5 **Robot** for Gas Metal Arc (GMAW) welding; Miller Deltaweld 450 or Arc Pak 350 constant voltage...

... delivery. 48 in. diameter turntable delivers parts smoothly and accurately within 0.005 in. to **robot** welding envelope. Optional 60 in. diameter aluminum fixture plate is available to mount weld fixtures...
... piece base. Model 88 gantry has components mounted on two separate bases, allows controller and **power** source to be **located** away from welding area.
Full text available on PTS New Product Announcements.
...

34/3,K/53 (Item 6 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)

01660204
LTX - Market Information.
ANNUAL REPORT 1986 p. 0

CHIPS WITH REAL MUSCLE Making a **robot** strong enough to lift a brick is simply a question of providing it with a...

... of digital electronics with solid-state elements heavy enough to handle large power levels. Smart **power** circuits are **finding** their **way** into machines as exotic as **robots** and as mundane as automobile headlight

controls. LTX introduced in January 1986 a high-power...

34/3,K/54 (Item 7 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
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01476623
SERIES 350 PORTABLE OXYGEN ANALYZERS.
NEWS RELEASE (FOR FURTHER INFORMATION APPLY TO COMPANY INDEXED) August 22, 1986 p. 11

... be belt mounted or carried in a pocket. Featuring a new long life Mini-Micro **Fuel Cell** , this inexpensive **analyzer** offers a **range** of 0-100% and a response time of less than six secondsP No PADS orders...

34/3,K/55 (Item 8 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
(c) 1999 The Gale Group. All rts. reserv.

01474928
ROBOTS USED FOR ADVANCED LABORATORY WORK.
NEWS RELEASE (FOR FURTHER INFORMATION APPLY TO COMPANY INDEXED) August 5, 1986 p. 11

A **robotic** system using a bar code laser that travels at 35 feet per second will handle...

... the Hanford Engineering Development Laboratory operated by the Westinghouse Hanford Company for the Department of **Energy** . **Located** in the Fuel Cycle Plant, the **robotic** system features a storage/retrieval machine that serves a 260-compartment nuclear materials storage vault. Westinghouse Hanford engineers incorporated an off-the-shelf **robot** into the system. Money and time were saved by utilizing a commercial **robot** that could perform the required task with little or no adjustment. The **robot** stands more than 20 feet high and can lift pallets that weigh up to 750 pounds. A specific compartment location can be requested and the **robot** will retrieve the pallet in roughly one minute. An industrial **robot** , moving at 35 feet per second will remove the canisters from the palletP No PADS...

34/3,K/56 (Item 9 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
(c) 1999 The Gale Group. All rts. reserv.

01269160
Off-line programming works with graphics.
AMERICAN MACHINIST October, 1985 p. 41

Intergraph (Huntsville, Alabama) has developed new software for programming **robot** motions off-line, as opposed to 'walking through' the **robotic** arm and digitizing the coordinates. The software includes elements for establishing floor plans, defining **robot** positions, and directing controllers, end-effectors (hands), and such support equipment as transfer mechanism, machine tools, power cables, and safety devices. The program starts with a graphic definition of the **robot** , which defines limits and angles of motion and how it is controlled (such as coordinates). Because specifics of the **robot** (reach, coordinate **locations** , speed, **power**) are linked to the graphic representation of the **robot** , the software can calculate simulated possible motions. ...

34/3,K/57 (Item 10 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
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01187423
American Robot Pegged to Aid Ford's CIM.
AMERICAN METAL MARKET May 13, 1985 p. 4,32

American **Robot** will receive $20 million from Ford Motor to bring the **robot** maker's computer integrated manufacturing technology to Ford. The accord will give Ford an undisclosed...

... s factory-integration needs. Intitially these will focus on interfacing present elements in Ford's **electrical** and electronics division, **located** in 6 N American plants, but sources said that role could grow if American performs...

34/3,K/58 (Item 11 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
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01150553
Laser power is placed under robotic control.
DESIGN NEWS December 3, 1984 p. 94-96

Coherent General has developed a laser that has been placed under **robotic** control. The 'Enhanced Fast Axial Flow' is an industrial CO2 laser resonator with an articulated...

...head is made of thickwall aluminum castings on kinetic mounts that allow operation in any **orientation** . The **power** supply can be **located** up to 50 feet away from the laser head, which allows the system the freedom...

34/3,K/59 (Item 12 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
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01145387
Los Alamos Looking at Fuel Cell Which Will Use Methanol, Oxygen.
SOLAR ENERGY INTELLIGENCE REPORT November 12, 1984 p. 3611

... for use in experimental vehicles under contract to Los Alamos National Lab. If actual tests **bear** out **computer** simulations, commercial **fuel - cell** vehicles could appear in the mid-1990s. Similar fuel cells are being used in experimental...

34/3,K/60 (Item 13 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
(c) 1999 The Gale Group. All rts. reserv.

01037826
Newbreak: Human-Run Mobile Manipulator.
Mechanical Engineering January, 1984 p. 76,77

... in real time by a human operator at another location. It is different from industrial **robots** that perform specific repetitive tasks from one **location** . Department of **Energy** 's Consolidated Fuel Reprocessing Program has developed the 'Teleoperation' technology to aid remote maintenance of...

34/3,K/61 (Item 14 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
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00994441
detroit, Automotive News Extra: March of the robots raises safety issues.
Automotive News June 20, 1983 p. 1, d2+1

Some 50,000-100,000 **robots** will be installed in US plants in 1990, 15,000-20,000 of which will...

... rate of 30-40 percent/yr. Thus auto manufacturers must develop company-wide approaches to **robotic** safety. Designers can build safety into **robots** by sound engineering practices, by safety practices, by reducing the **robot** 's kinetic energy level to a minimum, by safe electric and electronic hardware systems, by control system software, and by providing operating instructions. The **robot** should be restricted to its operating area. Other safety considerations include: hazard enclosure, part movement, controller **location** , **robot** mounting, and **power** loss. Noise is the primary environmental hazard caused by **robots** . People using **robots** must be carefully trained and educated. Spectators watching a new **robot** pose a major problem. General Motors' Lake Orion, Michigan, plant has trained 350 people in...

34/3,K/62 (Item 15 from file: 160)
DIALOG(R)File 160:Gale Group PROMT(R)
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00723642
Quality circles actually reduce Japanese productivity slightly, but are used strictly for building morale, say 2 productivity experts at Arthur Andersen & Co, a Chicago-based accounting and consulting firm.
Industry Week (formerly Steel Magazine) February 8, 1982 p. 28,291

... top management at Yamaha Motor wanted to introduce robotics into a motorcycle plant, so they **charged** middle management with **finding** the most effective places for **robots** , the best **way** to supply them with materials, and a plan to win worker approval. The project also...

... called families. Engineers were instructed that all motorcycles were to be designed for assembly by **robots** , and redesigned parts of different models would have to conform to the family from which...

34/3,K/63 (Item 1 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
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02062997 SUPPLIER NUMBER: 19348449 (USE FORMAT 7 OR 9 FOR FULL TEXT)
MOO II. (strategy game) (includes related article on MOO technology charts) (Product Support)
Carter, Tim
Computer Gaming World, n154, p212(5)
May, 1997
ISSN: 0744-6667 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 2801 LINE COUNT: 00221

... Zortium Armor
Construction
6. Zeon Missiles Neutronium Armor Uridium
Fuel Cells
7. Thorium Adamantium Armor
Fuel Cells
Technology Level
Computers
Path A **Path** B Path C
1. Electronic
Computer
2. Research Optronic Dauntless
Laboratory Computer Guidance System
3...

34/3,K/64 (Item 2 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

02002565 SUPPLIER NUMBER: 17164927 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Take a walk-thru on the dark side: top secret mission strategies for LucasArts' Dark Forces.(includes related articles on cheat codes and weapons in the game)
Computer Gaming World, n131, p112(5)
June, 1995
ISSN: 0744-6667 LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 4111 LINE COUNT: 00297

... the chance.
You have to set three sequencer charges before you can escape the ship:
Charge 1: Head for **location** 1 on the first map, past the **robot** arm in the shaft. Flipping the switch here raises the platform at location 2 up...

34/3,K/65 (Item 3 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)

01147962 SUPPLIER NUMBER: 00624097
ESAB Introduces Tactile Welding Sensor.
Schreiber, R.R.
Robotics Today, v7, n3, p18
June, 1985
DOCUMENT TYPE: product announcement ISSN: 0193-6913 LANGUAGE: ENGLISH RECORD TYPE: ABSTRACT

ABSTRACT: ESAB North America, Inc. (Fort Collins, CO) developed SmarTac, intelligent, adaptive **robotic** welding software. Welding joints are precisely **located** by an electrically **charged** sense of touch. Parts are **located** and SmarTac selects the correct welding program. SmarTac is optional with ESAB's **robotic** welding system.

34/3,K/66 (Item 1 from file: 624)
DIALOG(R)File 624:McGraw-Hill Publications

01062535
LADWP OKAYS $3.9 MILLION FOR FUEL CELL PLANT, LEAF BLOWERS AND ELECTRIC CARS
Electric Utility Week December 13, 1999; Pg 20; Vol. 152, No. 2
Journal Code: EUW ISSN: 0046-1695
Section Heading: VENTURES
Word Count: 340 *Full text available in Formats 5, 7 and 9*

TEXT:
... Fuel Cell Energy, Inc., Danbury, Conn., to manufacture and install a 250-kW ``molten carbonate'' **fuel cell** plant at a **location** yet to be **determined** . The department has committed itself to pay $1.5 million of the $2.45 million...

34/3,K/67 (Item 2 from file: 624)
DIALOG(R)File 624:McGraw-Hill Publications

01062039
LOS ANGELES DEPT. OF WATER & POWER WILL TEST FUEL CELL DISTRIBUTED GENERATION
Utility Environment December 17, 1999; Pg 9; Vol. 339, No. 5
Journal Code: UER ISSN: 1503-9379
Section Heading: Distributed Generation
Word Count: 536 *Full text available in Formats 5, 7 and 9*

TEXT:
... Energy Inc. of Danbury, Conn. The plant will be built in Los Angeles at a **location** yet to be **determined** .
A **fuel cell** is virtually pollution-free and converts hydrogen, usually derived from a fuel such as natural...

34/3,K/68 (Item 3 from file: 624)
DIALOG(R)File 624:McGraw-Hill Publications

00955070
REGULATION & THE ENVIRONMENT
Platts Oilgram News July 13, 1998; Pg 3; Vol. 76, No. 133
Journal Code: PON ISSN: 0163-1284
Word Count: 786 *Full text available in Formats 5, 7 and 9*

BYLINE:
Mark Emond

TEXT:
...to 50 units a year, or 8,000 to 10,000 kw annually. Recent industry **estimates** have **placed** the demand for **fuel cells** between 2,500 and 6,000 Mw (2.5-mil to 6- mil kw) by...

34/3,K/69 (Item 4 from file: 624)
DIALOG(R)File 624:McGraw-Hill Publications

00895408
GASOLINE-POWERED FUEL CELLS: `MAJOR BREAKTHROUGH' FOR AUTOS, HOMES
Utility Environment October 24, 1997; Pg 1; Vol. 68, No. 42
Journal Code: UER ISSN: 1503-9379
Word Count: 558 *Full text available in Formats 5, 7 and 9*

TEXT:
... said fuel cells will provide ultimate electric service reliability for residential customers.
``In the same **way** personal **computers** have replaced mainframes, we believe **fuel cells** will reduce the electric industry's reliance on large, centrally located power plants, Earley said...

34/3,K/70 (Item 5 from file: 624)
DIALOG(R)File 624:McGraw-Hill Publications

0544778
Post-2000 scene: Robotics and virtual reality combine to manage and perform maintenance
POWER January, 1994; Pg 44; Vol. 138, No. 1
Journal Code: POW ISSN: 0032-5929
Section Heading: Special Section
Word Count: 314 *Full text available in Formats 5, 7 and 9*

TEXT:
... Already, powerplant designers work in three-dimensional computer-generated replicas of the actual powerplant. And **robots** , many developed for nuclear work, are just now emerging as tools for conducting maintenance in hazardous or difficult-to-access **locations** of the plant (**POWER** , March 1993, p 90; September 1992, p 23).

Now imagine that these "virtual drawings" reside...

34/3,K/71 (Item 6 from file: 624)

DIALOG(R)File 624:McGraw-Hill Publications
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0217983
INDEX -- APRIL 1990
Inside Energy With Federal Lands May 14, 1990; Pg 1
Journal Code: IE ISSN: 0-278-2227
Section Heading: INDEX
Word Count: 1,524 *Full text available in Formats 5, 7 and 9*

TEXT:
...House Panel Caps Federal Spending for SSC, 2 April, 1

-DOE Says Research Proposed in **Fuel Cells Measure** Already Under **Way** , 2 April, 8

-The SSC Laboratory Is Looking for a New Project Manager, 9 April...

34/3,K/72 (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2002 The Gale Group. All rts. reserv.

03383777 Supplier Number: 46961336 (USE FORMAT 7 FOR FULLTEXT)
XOOM SOFTWARE: Xoom lowers the boom -- World's largest "spam" unleased upon six million PC's
M2 Presswire, pN/A
Dec 10, 1996
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 393

... on a user's ability to receive other email. Massa also added that the Email **Robot** product will be available to educational, government and non-profit institutions at no **charge** .
Xoom Software is **located** at 433 California Street, Suite 910, San Francisco, Calif. 94104. Telephone:
415/445-2525, fax...

34/3,K/73 (Item 2 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2002 The Gale Group. All rts. reserv.

02488725 Supplier Number: 44995278 (USE FORMAT 7 FOR FULLTEXT)
Japanese Government Support for S&T
NTIS Alert Foreign Technology, v94, n18, pN/A
Sept 15, 1994
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 1662

... and industry, MITI administers Government affairs related to foreign trade, industries, information, high technologies, industrial **location** , environmental protection, and **energy** .MITI's functions cover a wide **range** of industrial fields, including basic industries (steel, new chemical materials, bioindustries, etc.), machinery and information industries (electronic equipment, **robots** , industrial machines, automobiles, aircraft, information processing, space industry, etc.); and consumer goods industries (textiles, fine...

34/3,K/74 (Item 3 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2002 The Gale Group. All rts. reserv.

02425703 Supplier Number: 44822059 (USE FORMAT 7 FOR FULLTEXT)
THERE's A LOT MORE TO NEURAL COMPUTING THAN FEEDING IN YOUR RAW DATA

Computergram International, n2452, pN/A
July 7, 1994
Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 1134

(USE FORMAT 7 FOR FULLTEXT)
TEXT:
...condition that currently occur; an application for monitoring the health of machinery at the Blyth **Power** Station **located** north of Newcastle-upon-Tyne and a method to help solve the literary mystery as...

...the prior knowledge held about the information could be wrong. An example given was a **robot** that was being trained to avoid bumping into objects. Different people took it in turns to guide it around the obstacles as training runs. But once the **robot** was trained and set to navigate the obstacles alone it consistently bumped into the obstacles...

...into the problem, it was found that one of the trainers had always guided the **robot** to the left of an obstacle and the other consistently to the right, so the...

34/3,K/75 (Item 4 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)

02006659 Supplier Number: 43617810 (USE FORMAT 7 FOR FULLTEXT)
TRENDS, FORECASTS, AND ANALYSES: Polyimide Micromachining
Sensor Technology, v9, n2, pN/A
Feb, 1993
Language: English Record Type: Fulltext
Document Type: Magazine/Journal; Trade
Word Count: 333

... a decade away. Besides the obvious problem of assembling fully functional micromachines (not to mention **robots**), no one has yet **found** a **way** to **power** these microscopic devices. Metal and composite parts could allow some form of magnetic activation, but...

34/3,K/76 (Item 5 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)

01380477 Supplier Number: 41730994 (USE FORMAT 7 FOR FULLTEXT)
ROBOTIC DIGEST tm
Military Robotics, v4, n24, pN/A
Dec 12, 1990
Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 1159

... Naval Reactors Facility is soliciting for vendors to supply remote communications control networks to control **robotic** devices in nuclear hot cells. The communications systems cannot include radio link, infrared link, festoons...

...such as RS 422 and be capable of interfacing with industry communications standards. All remote **location** **electrical** hardware must be capable of working in gamma radiation fields of 1 x 105 rads...

```
?show files;ds
File 348:EUROPEAN PATENTS 1978-2002/Jul W03
         (c) 2002 European Patent Office
File 349:PCT FULLTEXT 1983-2002/UB=20020725,UT=20020718
         (c) 2002 WIPO/Univentio

Set     Items   Description
S1      19759   ROBOT? ? OR ROBOTIC OR TOYROBOT? OR ROBOTTOY? OR ROBOTPET?
             OR PETROBOT? OR ANIMALROBOT? OR ROBOTANIMAL? OR AIBO OR ROBOT-
             DOG? OR DOGROBOT?
S2       3029   TELEOPERATOR? OR TELEOPERATER? OR TELE()(OPERATOR? OR OPER-
             ATER?) OR MECHATRONIC? OR SERVOMECHANISM? OR SERVO()MECHANISM?
              OR AUTOMATA OR AUTOMATON?
S3         29   AUTOMATED(1W)MECHANICAL()(DEVICE? OR MANIPULAT? OR APP?? OR
              APPARATUS? OR INSTRUMENT????? ? OR EQUIPMENT? OR INVENTION? -
             OR UNIT? ? OR ASSEMBL? OR APPLIANCE? OR SYSTEM? ?)
S4    1068250   PICKUP OR PICK???()UP OR RECOGNI? OR DETECT? OR FIND? OR F-
             OUND OR READ??? OR DISCRIMINAT? OR IDENTIF? OR SENS??? OR SCAN
              OR SCANS OR SCANNED OR SCANNING
S5     241346   (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(IM-
             AGE? OR INFORMATION OR DATA OR PRINT OR PRINTED OR 3D OR DIME-
             NSION? OR COLOR? OR COLOUR? OR PATTERN?)
S6     222062   (S4 OR RECEIV? OR REPOND? OR RESPONSE? OR RECEPT?)(2N)(BAR-
             COD? OR BAR()(CODE? ? OR CODING) OR SIGNAL??? OR UPC OR UPCS -
             OR SKU OR SKUS OR 2D OR STEREOSCOP?)
S7       1871   (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(ST-
             EREOGRA? OR HOLOGRA? OR CUBIC OR VOLUMETRIC OR MULTIDIMENSION-
             ?)
S8       9417   (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(UN-
             IVERSAL()PRODUCT OR IDENTIF? OR ID)()(CODE? ? OR CODING)
S9     775034   TRANSMIT? OR TRANSMIS? OR SEND? OR SENT OR RECEIV? OR EMIT?
              OR EMIS? OR EMANAT?
S10    130716   S9(2N)(LIGHT OR PHOTIC? OR INFRARED? OR RADIA????? OR SOUN-
             D? ? OR SOUNDWAVE? OR AUDIO OR AUDIOWAVE? OR RADIOWAVE? OR MA-
             GNETICWAVE? OR MAGNETIC)
S11     32177   S10(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENSITIV?
             OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL?-
             ???  OR WAVE? ? OR SONIC? ?)
S12   1235424   RANGE? OR BEAR??? OR DISTAN? OR DIRECTION? OR LOCAT? OR SI-
             TUAT?? OR PLACEMENT? OR EMPLAC? OR POSITION? ? OR VECTOR? OR -
             PLACED OR PATH OR COURSE
S13    724226   NAVIGAT? OR HEADING OR ORIENTATION OR ROUTE? OR ROUTING OR
             WAY
S14    226550   S12-S13(3N)(CALCULAT? OR MEASUR? OR COMPUT? OR GAUG? OR AS-
             SESS? OR ANALYS? OR ANALYT? OR ANALYZ? OR DETERMIN? OR DET? ?
             OR QUANTIF? OR DERIV?)
S15    207784   S12:S13(3N)(MENSUR? OR EVALUAT? OR FIGUR??? OR TABULAT? OR
             CALIBRAT? OR ESTIMAT? OR APPROXIMAT?)
S16      2773   S1:S3(S)S5:S8
S17      2892   S1:S3(S)S14:S15
S18    210927   S9(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENS????? -
             OR ULTRASONIC???? OR RAY? ? OR BEAM? ? OR ACOUSTIC???? OR SIG-
             NAL???? OR WAVE? ? OR SONIC? ?)
S19      1526   S1:S3(S)(S10 OR S18)
S20    126114   REGENERAT???? OR REENERGI???? OR RECHARG???? OR BATTERY? OR
              BATTERIES OR (FUEL OR ELECTROCHEMICAL)()CELL? ?
S21    543548   POWER OR ENERGY OR ELECTRICITY OR ELECTRICAL
S22    284881   CHARGE? ? OR CHARGING
S23       887   (S16:S17 OR S19)(S)S20:S22
S24       482   IC='G05D-001/02'
S25       177   IC='B25J-005/00'
S26       119   IC='B25J-013/08'
S27       672   IC='G05D-001/02':IC='G05D-001/03'
S28     39167   IC=H04L?
S29      7635   IC=G06T?
S30         0   S23 AND S24 AND S25 AND S26
S31         5   S23 AND S25 AND (S24 OR S26)
S32         1   S23 AND S27 AND S28:S29
```

S33 38342 S20:S22(5N)(SEARCH? OR LOCAT????? OR FIND??? OR FOUND OR S-
EEK??? OR LOOK???)
S34 131 S1:S3(S)S33
S35 124 S34(S)S12:S13
S36 11 S35 AND S24:S29
S37 5 (S1 OR S2 OR S3)/TI,AB(S)S33
S38 12 S34 AND S24:S29
S39 48 S1:S3(15N)S33
S40 9 S39(S)S5:S8
S41 6 S39(S)S14:S15
S42 5 S39(S)(S10 OR S18)
S43 31 S31:S32 OR S36:S38 OR S40:S42
?t43/5,k

43/5,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01193298
ROBOT, METHOD OF ROBOT CONTROL, AND PROGRAM RECORDING MEDIUM
ROBOTER, STEUERVERFAHREN DES ROBOTER UND MEDIUM FUR PROGRAMMAUFNAHME
ROBOT, PROCEDE DE COMMANDE DE ROBOT ET SUPPORT D'ENREGISTREMENT DE PROGRAMME
PATENT ASSIGNEE:
Sony Corporation, (214028), 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP), (Applicant designated States: all)
INVENTOR:
NAGATSUKA, Norio, Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP)
INOUE, Makoto, Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP)
LEGAL REPRESENTATIVE:
Thevenet, Jean-Bruno (39781), Cabinet Beau de Lomenie 158, rue de l'Universite, 75340 Paris Cedex 07, (FR)
PATENT (CC, No, Kind, Date): EP 1136194 A1 010926 (Basic)
WO 200032361 000608
APPLICATION (CC, No, Date): EP 99972962 991130; WO 99JP6713 991130
PRIORITY (CC, No, Date): JP 98340716 981130
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: **B25J-013/08** ; B25J-013/00; **B25J-005/00** ; A63H-011/00; A63H-009/00; G06F-017/20; G06N-003/00
CITED REFERENCES (WO A):
JP 6012401 A
JP 10289006 A
JP 62024988 A
JP 10235019 A
MASAHIRO FUJITA.: 'Robot Entertainment: Small Four-legged Automatic Robot' TRANSACTIONS OF JAPAN ROBOT SOCIETY, vol. 16, no. 3, 15 April 1998, pages 31 - 32
MASAHIRO FUJITA ET AL.: 'Robot Entertainment (in Japanese)' PROCEEDINGS OF THE 6TH SONY RESEARCH FORUM, 27 November 1996, pages 234 - 239
TETSUYA QGATA ET AL.: 'Emotional Model and Internal Symbol Acquisition Model Based on Actions of the Robot (in Japanese)' PROCEEDINGS DISTRIBUTED AT LECTURE MEETING ON ROBOTICS AND MECHATRONICS PREPARED BY JAPAN MACHINERY SOCIETY, vol. 1998, no. 1, 26 June 1998, pages 2CII4.3(1) - 2CII4.3(2)
SHUSUKE MOGI ET AL.: 'Basic Research on Artificial Psychology Model (in Japanese)' PRINTINGS AT 15TH STUDY MEETING BY HUMAN INTERFACE AND COGNITIVE MODEL RESEARCH GROUP, ARTIFICIAL INTELLIGENCE SOCIETY, 24 January 1992, pages 1 - 8
HIROHIDE USHIDA ET AL.: 'Emotional Model Application to Pet Robot (in Japanese)' PROCEEDINGS DISTRIBUTED AT LECTURE MEETING ON ROBOTICS AND MECHATRONICS PREPARED BY JAPAN MACHINERY SOCIETY, vol. 1998, no. 1, 26 June 1998, pages 2CII4.5(1) - 2CII4.5(2)
MASAHIRO FUJITA ET AL.: 'Reconfigurable Physical Agents' PROCEEDINGS OF THE SECOND INTERNATIONAL CONFERENCE ON AUTONOMOUS AGENTS, 09 May 1998, pages 54 - 61;

ABSTRACT EP 1136194 A1

When the information is inputted from the recognition object, the emotion module discriminates the type of the inputted information (step ST1) and charges the emotion level of each emotion unit using the parameter corresponding to the inputted information (step ST2). The emotion module selects the emotion unit having the maximum emotion level from among the emotion units having the emotion levels exceeding the threshold value. The selected emotion unit notifies the object which is requesting the output, for example, the behavior production object, of that information.

ABSTRACT WORD COUNT: 87

NOTE:

Figure number on first page: 3

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	000920	A1	International application. (Art. 158(1))
Application:	000920	A1	International application entering European phase
Application:	010926	A1	Published application with search report
Examination:	010926	A1	Date of request for examination: 20010109
Search Report:	010926	A1	Date of drawing up and dispatch of supplementary:search report 20010314
Examination:	011114	A1	Date of dispatch of the first examination report: 20011001

LANGUAGE (Publication,Procedural,Application): English; English; Japanese

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200139	4350
SPEC A	(English)	200139	5036
Total word count - document A			9386
Total word count - document B			0
Total word count - documents A + B			9386

INTERNATIONAL PATENT CLASS: **B25J-013/08** ...

... **B25J-005/00**

...SPECIFICATION for controlling the entire system, a video camera 12 having a CCD (charge coupled device) **image sensor** ,- a storage section 13 for storing video data from the video camera 12, and a...

?t43/5,k/2-31

43/5,K/2 (Item 2 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

01176285

ROBOT DEVICE AND CONTROL METHOD THEREOF

ROBOTER UND SEIN STEUERVERFAHREN

ROBOT ET SON PROCEDE DE COMMANDE

PATENT ASSIGNEE:

Sony Corporation, (214028), 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP), (Applicant designated States: all)

INVENTOR:

TAKAMURA, Seiichi, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP)

LEGAL REPRESENTATIVE:

Thevenet, Jean-Bruno (39781), Cabinet Beau de Lomenie 158, rue de l'Universite, 75340 Paris Cedex 07, (FR)

PATENT (CC, No, Kind, Date): EP 1155787 A1 011121 (Basic)
WO 200032360 000608

APPLICATION (CC, No, Date): EP 99972961 991125; WO 99JP6588 991125

PRIORITY (CC, No, Date): JP 98340715 981130; JP 99129277 990510

DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE

INTERNATIONAL PATENT CLASS: **B25J-013/08** ; B25J-013/00; **B25J-005/00**

CITED PATENTS (WO A): JP 10149445 A ; EP 816986 A ; JP 7311082 A ; JP 5318348 A ; JP 5169378 A ; JP 10217174 A

ABSTRACT EP 1155787 A1

Acceleration information, rotation angle information and rotation angular velocity information are detected by an acceleration sensor and a rotation angle sensor, and detected signals are stored into a storage section in tune series. Specific information such as dispersion is calculated from the stored time series signals, and the state of the robot device is determined from the specific information. When it is detected as the state of the robot device that the robot device is lifted up, the movement of a predetermined movable part which acts to the outside is stopped.

ABSTRACT WORD COUNT: 92

NOTE:
Figure number on first page: 4

LEGAL STATUS (Type, Pub Date, Kind, Text):
Application: 000802 A1 International application. (Art. 158(1))
Application: 000802 A1 International application entering European phase
Application: 011121 A1 Published application with search report
Examination: 011121 A1 Date of request for examination: 20010109
LANGUAGE (Publication,Procedural,Application): English; English; Japanese

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200147	696
SPEC A	(English)	200147	5143
Total word count - document A			5839
Total word count - document B			0
Total word count - documents A + B			5839

INTERNATIONAL PATENT CLASS: **B25J-013/08** ...

... **B25J-005/00**

...SPECIFICATION for controlling the entire system, a video camera 12 having a CCD (charge coupled device) **image sensor** , a storage section 13 for storing video data from the video camera 12, and a...

43/5,K/3 (Item 3 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01028855
Impulse-based, flexible parts feeder
Impulsbetatigte, flexible Zufuhreinrichtung
Dispositif d'alimentation souple commande par impulsion

PATENT ASSIGNEE:
ADEPT TECHNOLOGY, INC., (681601), 150 Rose Orchard Way, San Jose California 95134, (US), (Applicant designated States: all)
INVENTOR:
Buchi, Felix, Laettendoerfli 21, 8114 Daenikon, (CH)
Carlisle, Brian R., 5 Bayberry, Portola Valley,CA 94028, (US)
Nesnas, Issa, 3220 Altura Avenue, Apt. 235, La Crescenta, CA 91214, (US)
LEGAL REPRESENTATIVE:
Winter, Brandl, Furniss, Hubner, Ross, Kaiser, Polte Partnerschaft (100051), Patent- und Rechtsanwaltskanzlei Alois-Steinecker-Strasse 22, 85354 Freising, (DE)

PATENT (CC, No, Kind, Date): EP 916457 A2 990519 (Basic)
EP 916457 A3 000503
APPLICATION (CC, No, Date): EP 98117150 980910;
PRIORITY (CC, No, Date): US 971672 971117
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
INTERNATIONAL PATENT CLASS: B25J-009/16; B65G-047/24; **G06T-007/00** ; **G06T-001/00** ; G06K-009/48; G06K-009/68; B65G-047/244

ABSTRACT EP 916457 A2

A flexible parts feeder includes a flexible membrane for supporting parts and defining a selection zone where the positional state of parts is analyzed by a machine vision system. The output of the sensor is used to control a transformer that selectively applies impulse energy to the flexible membrane so as to change the positional states of at least some parts in the selection zone to a desired positional state. Those parts having the desired positional state are selected and removed from the membrane by a robot.

ABSTRACT WORD COUNT: 88

NOTE:
Figure number on first page: 1

LEGAL STATUS (Type, Pub Date, Kind, Text):

Change:	000503	A2	International Patent Classification changed: 20000311
Application:	990519	A2	Published application (A1with Search Report ;A2without Search Report)
Examination:	010613	A2	Date of dispatch of the first examination report: 20010430
Examination:	001227	A2	Date of request for examination: 20001018
Search Report:	000503	A3	Separate publication of the search report

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	9920	1238
SPEC A	(English)	9920	9044
Total word count - document A			10282
Total word count - document B			0
Total word count - documents A + B			10282

...INTERNATIONAL PATENT CLASS: **G06T-007/00** ...

... **G06T-001/00**

...SPECIFICATION a selection/transformation zone in which parts are detected by a machine vision system. The **positional** states of parts are individually or collectively changed by a transformer to reorient and/or redistribute parts so as to present parts in the desired orientations and **locations** to a robot for selection. The transformer applies impulsed **energy** to selective **locations** on the support, based on the **positional** states of the parts detected by the machine vision system.
In another aspect, the parts...

43/5,K/4 (Item 4 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00749347
Navigation system for an autonomous mobile robot
Navigationssystem fur einen autonomen mobilen Roboter
Systeme de navigation pour un robot mobile autonome
PATENT ASSIGNEE:
CONSORZIO TELEROBOT, (2037190), Piazza Carignano, 2, I-16128 Genova, (IT)
, (applicant designated states: DE;FR;GB;IT)
INVENTOR:
Garibotto, Giovanni, Via don Paseri, I-17019 Varazze (Savona), (IT)
Ilic, Marco, Via Secchi, I-42100 Reggio Emilia, (IT)
Masciangelo, Stefano, Via Donaver 20/25, I-16143 Genova, (IT)
LEGAL REPRESENTATIVE:
Appoloni, Romano et al (50972), ING. BARZANO' & ZANARDO MILANO S.p.A. Via Borgonuovo 10, I-20121 Milano, (IT)
PATENT (CC, No, Kind, Date): EP 706105 A1 960410 (Basic)
APPLICATION (CC, No, Date): EP 95202636 951002;
PRIORITY (CC, No, Date): IT 94MI2020 941004
DESIGNATED STATES: DE; FR; GB; IT
INTERNATIONAL PATENT CLASS: **G05D-001/03** ; G01S-003/783

ABSTRACT EP 706105 A1

A navigation system for an autonomous mobile robot within an environment which comprises coded signs at predetermined points comprising means for storing data regarding said environment, including data regarding the positions of said coded signs relative to the environment, passive vision systems for the image acquisition and automatic recognition of said coded signs, a computer for estimating its own position and orientation relative to one of said coded signs and to the environment, means for acquiring the location of target positions, means for planning a path to be covered within said environment to reach target positions, and means for controlling the robot motion based on the stored path data. (see image in original document)

ABSTRACT WORD COUNT: 135

LEGAL STATUS (Type, Pub Date, Kind, Text):

Withdrawal:	000726	A1	Date application deemed withdrawn: 20000128
Application:	960410	A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	961127	A1	Date of filing of request for examination: 961001
Examination:	991103	A1	Date of dispatch of the first examination report: 19990917

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPAB96	709
SPEC A	(English)	EPAB96	4023
Total word count - document A			4732
Total word count - document B			0
Total word count - documents A + B			4732

INTERNATIONAL PATENT CLASS: **G05D-001/03** ...

...SPECIFICATION in predetermined positions known to the robot. Active sensors can be for example active beacons **emitting** coded **signals** . A passive **sensor** is located on the robot to **sense** the **signals** **emitted** by several beacons such that the robot navigation system can deduce its own position relative...

...radiofrequency) emitters in order to transmit the position code associated with the beacon to the **robot** .
Other systems use **energy** emitting sensors **located** on board the **robot** , for example rotary laser scanners coupled with a photodiode. For this purpose a number of...

43/5,K/5 (Item 5 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

00714554

A process and devices for welding, flaring and inserting elbows in batteries.

Verfahren und Vorrichtung zum Schweissen, Aufbreiten und Einfuhren von Rohrbogen.

Methode, appareillage pour le soudage, l'elargissement ainsi que l'introduction de tubes coudes.

PATENT ASSIGNEE:
KOBOL S.A., (1641620), Avenida Leizaur, 67, E-31350 Peralta (Navarra), (ES), (applicant designated states: DE;FR;IT;PT)

INVENTOR:
Montseny Banajes, Albert, Urbanizacion Cal Esteve, Parcela 45, E-08253 San Salvador De Guardiola, (ES)

LEGAL REPRESENTATIVE:
Carpintero Lopez, Francisco (54271), HERRERO & ASOCIADOS, S.L. Alcala, 21 , E-28014 Madrid, (ES)

PATENT (CC, No, Kind, Date): EP 676258 A1 951011 (Basic)

APPLICATION (CC, No, Date): EP 95500047 950407;
PRIORITY (CC, No, Date): ES 94745 940407
DESIGNATED STATES: DE; FR; IT; PT
INTERNATIONAL PATENT CLASS: B23K-037/04;

ABSTRACT EP 676258 A1
The process is based upon the measurement of a number of points (9) on the **battery** (10) in order to **find** the true and precise position in which such battery is lying. These values are compared with reference values obtained in a computer, and are visible on a screen (3), all data relating to every battery being provided, thereby allowing path shifts to be calculated to be able to correctly position the **battery** in the appropriate **location** for welding, flaring and elbow insertion. The measurement is made by a special gauge (5) whereas the operations are carried out by a **robot** (1) whose arm (12) is fitted with a grip to and from which specific tools (6), (7) and (8) can be coupled for flaring, insertion and welding to take place, as appropriate. The **robot** (1) arm (12) is fitted with a resilient wrist member that allows minor shifts of the grip as such to be offset. (see image in original document)
ABSTRACT WORD COUNT: 164

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	951011 A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	960612 A1	Date of filing of request for examination: 960410
Examination:	970528 A1	Date of despatch of first examination report: 970415
Withdrawal:	990407 A1	Date on which the European patent application was deemed to be withdrawn: 981014

LANGUAGE (Publication,Procedural,Application): English; English; Spanish

...ABSTRACT The process is based upon the measurement of a number of points (9) on the **battery** (10) in order to **find** the true and precise position in which such battery is lying. These values are compared...

...provided, thereby allowing path shifts to be calculated to be able to correctly position the **battery** in the appropriate **location** for welding, flaring and elbow insertion. The measurement is made by a special gauge (5) whereas the operations are carried out by a **robot** (1) whose arm (12) is fitted with a grip to and from which specific tools...

...8) can be coupled for flaring, insertion and welding to take place, as appropriate. The **robot** (1) arm (12) is fitted with a resilient wrist member that allows minor shifts of...

43/5,K/6 (Item 6 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00631089
MICRO-ROBOT AND ITS STORAGE CASE
MIKROROBOTER UND AUFBEWAHRUNGSBEHALTER DAFUR
ROBOT MINIATURE ET SON BOITIER DE RANGEMENT
PATENT ASSIGNEE:
SEIKO EPSON CORPORATION, (730004), 4-1, Nishishinjuku 2-chome, Shinjuku-ku Tokyo 163-08, (JP), (applicant designated states: CH;DE;FR;GB;LI)
INVENTOR:
MIYAZAWA, Osamu, Seiko Epson Corporation, 3-5, Owa 3-chome, Suwa-shi, Nagano 392, (JP)
LEGAL REPRESENTATIVE:
Ben-Nathan, Laurence Albert et al (28211), Urquhart-Dykes & Lord 91 Wimpole Street, London W1M 8AH, (GB)
PATENT (CC, No, Kind, Date): EP 623861 A1 941109 (Basic)
EP 623861 A1 950726
EP 623861 B1 980304

WO 9412918 940609
APPLICATION (CC, No, Date): EP 93924815 931112; WO 93JP1654 931112
PRIORITY (CC, No, Date): JP 92312063 921120; JP 92329385 921209
DESIGNATED STATES: CH; DE; FR; GB; LI
INTERNATIONAL PATENT CLASS: **G05D-001/02** ; H05K-005/02; B25J-013/04; **B25J-005/00** ; H02J-007/00

ABSTRACT EP 623861 A1

A small micro-robot having a size of about 1 cm(sup 3) and capable of being controlled wirelessly. The robot comprises at least two photosensors (12, 14) having detection regions thereof partially overlapping with each other; at least a pair of driving portions (28, 30) driven mutually independently and having driving points spaced apart in a direction orthogonal to a moving direction; a control unit (58) including a CPU and controlling the driving portions on the basis of the output of the photosensors; a power supply (16) having a chargeable battery and a voltage regulation circuit (56) for regulating the voltage of the battery to supply power to the photosensors, the driving portions and the control portion; and a reset circuit (40) for sending a reset signal to the control portion on receiving non-contactively an instruction from outside. The invention discloses also a storage case of the micro-robot capable of charging the robot during storage. (see image in original document) (see image in original document) (see image in original document)

ABSTRACT WORD COUNT: 171

LEGAL STATUS (Type, Pub Date, Kind, Text):

Lapse:	20000119 B1	Date of lapse of European Patent in a contracting state (Country, date): FR 19980731, GB 19981112,
Application:	940907 A	International application (Art. 158(1))
Application:	941109 A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	941109 A1	Date of filing of request for examination: 940711
Change:	950719 A1	Obligatory supplementary classification (change)
Search Report:	950726 A1	Drawing up of a supplementary European search report: 950612
Examination:	960612 A1	Date of despatch of first examination report: 960426
Grant:	980304 B1	Granted patent
Lapse:	981223 B1	Date of lapse of the European patent in a Contracting State: FR 980731
Oppn None:	990224 B1	No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9810	873
CLAIMS B	(German)	9810	719
CLAIMS B	(French)	9810	886
SPEC B	(English)	9810	10148
Total word count - document A			0
Total word count - document B			12626
Total word count - documents A + B			12626

INTERNATIONAL PATENT CLASS: **G05D-001/02** ...

... **B25J-005/00**

...SPECIFICATION system which causes the robot to autonomously move in a direction in which the radio **waves** are **transmitted** , the previously mentioned antenna or sensors must be additionally provided and in this respect the...

...small, whereas the miniaturization is difficult if the wheels are large. The reduction of the **charging** terminals in size is impossible from the standpoint of the handling and this becomes an...with the command means. For this purpose, the case proper may be constructed to include **signal**

transmission means to effect the trans- mission and **reception** of **signals** between it and the controller which is incorporated in the **robot** and governs the operation of the **robot** and an operation circuit for performing at least commanding operations on the **robot** controller. The operation circuit includes a reset circuit for resetting the **charging** circuit and the **robot** controller and the reset circuit is incorporated in the **robot** . In addition, the **charging** ciricuit includes a **battery** checking switch and a reset switch operatively associated with the former switch to short-circuit the **power** supply circuit of the **robot** . By virtue of this reset circut, the resetting is effected at the same time that the **charging** of the **robot** is started and the **robot** controller is prevented from running away. Also, when the **robot** is in accommodation, the program contents of the **robot** , the **power** supply voltage, etc., can be checked.

Fig. 1 is a side view of a micro...reset. This photo sensor 96 is attached for example to the back side of the **robot** proper so that when the operator projects light during the driving, for example, the **robot** proper is brought into its in a non-contact manner. The reset circuit of Fig...case in which a thermistor 100 is connected. When the thermistor 100 receives any heat **energy** so that its resistance is reduced, in response to this resistance change a reset signal...

...is reset. The reset circuit of Fig. 15 shows the case in which a solar **battery** 102 is connected. When the solar **battery** 102 **receives** the **light** so that an electromotive force is produced, in response to the electromotive force a reset...to the outside.

Figure 24 is a flow chart showing an exemplary control of the **light - emitting** diodes. Here, description will be made of the case in which a voltage drop in the **power** supply unit 16 is detected. The CPU core 40 reads the voltage VH of the **power** supply unit 16 at a given period (S21), compares it with a reference voltage Vr (S22) and continues the required activity (e.g., travelling) when the voltage VH of the **power** supply unit 16 is higher than the reference voltage VR(23). On the contrary, if the voltage VH of the **power** supply unit 16 is lower than the reference voltage Vr, any of the currents in the timing chart of Fig. 23 is supplied to the **light - emitting** diodes 114 and 116 to effect the **emission** of **light** (S24). It is to be noted that this operation can be equally applied to the buzzer 15 of Fig.21 so that when the voltage of the **power** supply unit 16 drops, the buzzer 15 is driven to produce a buzzing sound to inform to the outside to that effect. By virtue of such **light emission** or buzzing **sound** , the operator can grasp the drop in the voltage of the **power** supply unit 16 and he is allowed to know that now it is the time to **charge** the micro **robot** .

Fig. 25 is a diagram showing the circuit for the eye portion of the micro...invertor, 246 a resistor, 247 an AND circuit, and 248 an internal resistor. Here, a **light - emitting** diode (LED) is used for the lamp 211. When the **robot** 10 is accommodated in the **robot** cavity 204, the switch 210 and the reset switch 242 are respectively on the side of contacts a and c shown in Fig. 35 and the **charging** of the **battery power** supply 16 of the **robot** 10 is started through the **power** supply circuit 243. At the same time that the **charging** is started, the connection upper end of the resistor 246 goes to a positive potential...

...product of the AND circuit 247 becomes "1" and the CPU core 40 of the **robot** 10 is reset. In other words, it is arranged so that the CPU core 40 is always reset by the **power** -on reset circuit 241 when the **charging** of the **robot** 10 is started and therefore the runaway of the CPU core 40 can be prevented. Then, when the capacitor 244 is **charged** , both of the connection ends of the resistor 246 go to the same positive potential ...accordance with the program. A connecting terminal 260 is one for effecting the transmission and **reception** of **signals** with an external personal computer, an external memory or the like and it is possible...

...Included among the information transmission and reception methods for the transmission of signals to a **robot** and the gathering of information from the **robot** are one which utilizes a special-purpose connector, another one which superposes signals on a **power** supply line by means of an AC signal

43/5,K/7 (Item 7 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00567226

Automatic railroad passenger car cleaning robot
Roboter zum Reinigen eines Reisezugwagens
Robot de nettoyage pour voiture ferroviaire

PATENT ASSIGNEE:
KABUSHIKI KAISHA TOSHIBA, (213131), 72, Horikawa-cho, Saiwai-ku, Kawasaki-shi, Kanagawa-ken 210, (JP), (applicant designated states: DE;FR;GB;IT)
INVENTOR:
Ohshida, Masaki, 2-1-48, Kanamachi, Mitoshi, Ibaragiken, (JP)
Fujiwara, Yoshimori, 4-3-A-102, Komagomeshi, Toshimaku, Tokyo, (JP)
Mizuno, Sueyoshi, 4-6-408, 527, Iijimacho, Sakaeku, Yokohamashi, Kanagawaken, (JP)
Iba, Satoshi, 1979-7, Kawaguchimachi Hachioujishi, Tokyo, (JP)
Okamoto, Seiichi, 3-26-17, Chuou, Nakanoku, Tokyo, (JP)
LEGAL REPRESENTATIVE:
Lehn, Werner, Dipl.-Ing. et al (7471), Hoffmann, Eitle & Partner, Patentanwalte, Postfach 81 04 20, 81904 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 569984 A1 931118 (Basic)
EP 569984 B1 970730
APPLICATION (CC, No, Date): EP 93107807 930513;
PRIORITY (CC, No, Date): JP 92123271 920515; JP 92123276 920515; JP 92123267 920515
DESIGNATED STATES: DE; FR; GB; IT
INTERNATIONAL PATENT CLASS: B60S-003/00; B08B-003/02; **G05D-001/02** ; A47L-011/40
CITED PATENTS (EP A): EP 424229 A; EP 402764 A; WO 8807711 A; US 5001635 A

ABSTRACT EP 569984 A1

A railroad passenger car cleaning robot capable of carrying out the wash cleaning operation for the entire floor of the railroad passenger car at improved efficiency automatically. The robot is characterized by having distance measurement sensors (14) for measuring distances of the robot with respect to any one of a seat portion, a door portion, and a wall of the railroad passenger car, in front of and on one side of the robot; and a proximity sensor (15) for detecting a presence of the seat portion of the railroad passenger car on that one side of the robot; such that the running controller controls the running driving section to realize the running operation along a continuous running pattern according to the distances measured by the distance measurement sensors (14) and the presence of the seat portion detected by the proximity sensor (15). (see image in original document)
ABSTRACT WORD COUNT: 149

LEGAL STATUS (Type, Pub Date, Kind, Text):
Application: 931118 A1 Published application (A1with Search Report ;A2without Search Report)
Examination: 931118 A1 Date of filing of request for examination: 930513
Examination: 950510 A1 Date of despatch of first examination report: 950324
*Assignee: 960904 A1 Applicant (transfer of rights) (change): KABUSHIKI KAISHA TOSHIBA (213131) 72, Horikawa-cho, Saiwai-ku Kawasaki-shi, Kanagawa-ken 210 (JP) (applicant designated states: DE;FR;GB;IT)
*Assignee: 960904 A1 Previous applicant in case of transfer of rights (change): KABUSHIKI KAISHA TOSHIBA (213130) 72, Horikawa-cho, Saiwai-ku Kawasaki-shi, Kanagawa-ken 210 (JP) (applicant designated states: DE;FR;GB;IT)
Grant: 970730 B1 Granted patent

Oppn None: 980722 B1 No opposition filed
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	EPABF1	1344
CLAIMS B	(English)	9707W5	1351
CLAIMS B	(German)	9707W5	1073
CLAIMS B	(French)	9707W5	1608
SPEC A	(English)	EPABF1	12328
SPEC B	(English)	9707W5	12274
Total word count - document A			13673
Total word count - document B			16306
Total word count - documents A + B			29979

...INTERNATIONAL PATENT CLASS: **G05D-001/02**

...SPECIFICATION rewind device 6 for rewinding a power supply cable 5 to be connected to a **power** supply, which is **located** inside the **robot** body 1 to rewind the power supply cable 5 extending from an upper rear portion of the **robot** body 1; a cleanser tank 7 for containing cleanser to be used in the wash cleaning, which is **located** inside a front side of the **robot** body 1; a dirty water tank 8 for containing the dirty water sucked up by the squeegee 2, which is **located** inside a lower rear side of the **robot** body 1; and a handrail 9 to be held and pushed by an operator in a case of manually operating this **robot** , which is **located** on an upper rear portion of the **robot** body 1.

In addition, the robot body 1 further comprises: a control panel 10 for ...

...SPECIFICATION the drawings.

ROBOT CONFIGURATION

As shown in Figs. 1A and 1B, in this embodiment, a **robot** body 1 of the railroad passenger car cleaning **robot** comprises: washing brushes 2 for carrying out the wash cleaning, which are **located** on a lower front portion of the **robot** body 1; a squeegee 2 for wiping up dirty water resulting from the wash cleaning, which is **located** on a lower portion of the **robot** body 1 behind the washing brushes 2; left and right driving wheels 4(liters) and 4r for driving the **robot** body 1 along the floor, which are **located** on a lower rear portion of the **robot** body 1; a cable rewind device 6 for rewinding a power supply cable 5 to be connected to a **power** supply, which is **located** inside the **robot** body 1 to rewind the power supply cable 5 extending from an upper rear portion of the **robot** body 1; a cleanser tank 7 for containing cleanser to be used in the wash cleaning, which is **located** inside a front side of the **robot** body 1; a dirty water tank 8 for containing the dirty water sucked up by the squeegee 2, which is **located** inside a lower rear side of the **robot** body 1; and a handrail 9 to be held and pushed by an operator in a case of manually operating this **robot** , which is **located** on an upper rear portion of the **robot** body 1.

In addition, the robot body 1 further comprises: a control panel 10 for ...

43/5,K/8 (Item 8 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00560133
MICRO-ROBOT
MIKRO-ROBOTER
MICROROBOT
PATENT ASSIGNEE:
SEIKO EPSON CORPORATION, (730004), 4-1, Nishishinjuku 2-chome, Shinjuku-ku Tokyo 163-08, (JP), (applicant designated states: CH;DE;FR;GB;IT;LI)
INVENTOR:
MIYAZAWA, Osamu, Seiko Epson Corporation 3-5, Owa 3-chome, Suwa-shi

Nagano 392, (JP)
LEGAL REPRESENTATIVE:
Watkins, David et al (77081), Urquhart-Dykes & Lord, 91 Wimpole Street, London W1M 8AH, (GB)
PATENT (CC, No, Kind, Date): EP 564661 A1 931013 (Basic)
EP 564661 A1 940330
EP 564661 B1 970903
WO 9309018 930513
APPLICATION (CC, No, Date): EP 92922645 921102; WO 92JP1415 921102
PRIORITY (CC, No, Date): JP 91288764 911105; JP 9271696 920327; JP 9271697 920327; JP 9271698 920327
DESIGNATED STATES: CH; DE; FR; GB; IT; LI
INTERNATIONAL PATENT CLASS: B62D-001/28; B62D-063/02; **B25J-005/00** ; B25J-009/00; B25J-007/00; A61B-001/12
CITED PATENTS (EP A): GB 2182634 A; US 4638445 A; US 4736116 A
CITED PATENTS (WO A): JP 61274885 A; JP 49128423 A
CITED REFERENCES (EP A):
SENSORS AND ACTUATORS vol. 20, no. 1/2 , 15 November 1989 , LAUSANNE CH pages 187 - 196 FLYNN 'INTELLIGENCE FOR MINIATURE ROBOTS';

ABSTRACT EP 564661 A1
A micro-robot having a size of about 1 cm(sup 3) and capable of wireless control. This robot includes at least two sensors (12, 14) having detection regions thereof overlapping partially with each other, at least a pair of independently operated driving units (30, 28) having driving points spaced apart in a direction perpendicular to a moving direction, control units (40, 58, 60, 62) for controlling the driving units on the basis of the outputs of the sensors, and a rechargeable power supply portion (16) for supplying a power supply voltage to the sensors, the driving units and the control units. The control units and the power supply units are disposed between the driving units. (see image in original document)
ABSTRACT WORD COUNT: 121

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	931013	A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	931013	A1	Date of filing of request for examination: 930621
Change:	940323	A1	Obligatory supplementary classification (change)
Search Report:	940330	A1	Drawing up of a supplementary European search report: 940209
Change:	940629	A1	Representative (change)
Examination:	951011	A1	Date of despatch of first examination report: 950825
Change:	960221	A1	Representative (change)
Grant:	970903	B1	Granted patent
Oppn None:	980826	B1	No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9708W5	894
CLAIMS B	(German)	9708W5	733
CLAIMS B	(French)	9708W5	948
SPEC B	(English)	9708W5	14134
Total word count - document A			0
Total word count - document B			16709
Total word count - documents A + B			16709

...INTERNATIONAL PATENT CLASS: **B25J-005/00**

...SPECIFICATION is lower than the predetermined reference voltage VL, a charge operation is started. First, the **robot** body 10 is rotated once as it is. For example, if the **robot** body 10 starts turning to the left, the CPU core 40 judges whether the sensor...

...guide in response to, for example, normal light, and the other element

is used for **searching** the **charge** area 374 in response to, for example, only infrared rays from the signal generator 370...

43/5,K/9 (Item 9 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00442549
A device for laser welding motor vehicle bodies
Vorrichtung zum Laser-Schweissen von Kraftfahrzeugkarosserien
Dispositif pour le soudage a laser des carrosseries des vehicules automobiles
PATENT ASSIGNEE:
COMAU S.p.A., (429620), Via Rivalta 30, 10095 Grugliasco (Torino), (IT), (Proprietor designated states: all)
INVENTOR:
Alborante, Giancarlo, Via Aldo Moro 1, I-10028 Trofarello TORINO, (IT)
LEGAL REPRESENTATIVE:
Notaro, Giancarlo et al (51403), Buzzi, Notaro & Antonielli d'Oulx Corso Fiume 6, 10133 Torino, (IT)
PATENT (CC, No, Kind, Date): EP 440001 A1 910807 (Basic)
EP 440001 B1 940126
EP 440001 B2 990818
APPLICATION (CC, No, Date): EP 90830575 901211;
PRIORITY (CC, No, Date): IT 90U67074 900131
DESIGNATED STATES: AT; BE; CH; DE; ES; FR; GB; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: B62D-065/00; B23K-026/00
CITED PATENTS (EP A): EP 250678 A
CITED PATENTS (EP B): EP 136190 A; EP 250678 A; DE 3536015 A; DE 8812396 U
CITED REFERENCES (EP B):
A. Leaflet of the company Luminics Ltd "Triple Laser Power for high Speed Cutting and Welding";

ABSTRACT EP 440001 A1
A device for welding motor-vehicle bodies which have been assembled loosely beforehand comprises at least one station (1) for welding the bodies (B), a conveyor line (2) for transporting the loosely preassembled bodies (B) to the station (1), and locating means (4) provided at the station for clamping the component parts of the body (B) in the correct positions for welding. The device also includes welding means (5) comprising a plurality of laser-welding torches (5) which are associated with the locating means (4) and are connected to one or more laser sources (S) by optical fibres (6). In a preferred embodiment, the device is applied to a flexible welding station in which the locating means (4) are carried by two or more pairs of locating frames (G) which can be interchaged rapidly in the working position. (see image in original document)
ABSTRACT WORD COUNT: 143
NOTE:
Figure number on first page: 001

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	910807	A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	911211	A1	Date of filing of request for examination: 911001
Examination:	930428	A1	Date of despatch of first examination report: 930312
Change:	930728	A1	Representative (change)
Grant:	940126	B1	Granted patent
Oppn:	941214	B1	Opposition 01/941021 Bayerische Motoren Werke Aktiengesellschaft; ; D-80788 Munchen; (DE) (Representative:)Bucken, Helmut et al; Bayerische Motoren Werke Aktiengesellschaft Patentabteilung AJ-30; D-80788 Munchen; (DE) 02/941022 KUKA Schweissanlagen + Roboter GmbH; Blucherstrasse 144; D-86165 Augsburg; (DE)

(Representative:)Ernicke, Hans-Dieter, Dipl.-Ing. et al; Patentanwalte Dipl.-Ing. H.-D. Ernicke Dipl.-Ing. Klaus Ernicke Schwibbogenplatz 2b; D-86153 Augsburg; (DE)
Change: 960410 B1 Representative (change)
Amended: 990818 B2 Amended patent
Amended: 990818 B2 Date of patent maintained as amended: 19990818
LANGUAGE (Publication,Procedural,Application): English; English; Italian
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9933	777
CLAIMS B	(German)	9933	732
CLAIMS B	(French)	9933	908
SPEC B	(English)	9933	2522
Total word count - document A			0
Total word count - document B			4939
Total word count - documents A + B			4939

...SPECIFICATION welding station, the drums 3 must be in a position such that the two frames **G** **corresponding** to the specific body **type** face **the** **two** sides of the body. At this point, transverse translation devices take the two frames G...

...above, the welding means provided to the station 1 are constituted by a plurality of **programmable** , **electrical** spot welding **robots** and/or by a plurality of welding guns arranged on the locating frames.
In the...
...pass through a hole 7 in the element 4a.
In the preferred embodiment shown in **Figures** 1-3, each **locating** frame G has a set of optical distributor devices 8 each having an optical input...

...the welding station and a plurality of outputs 9 connected by means of bundles of **optical** fibres 6 to the **laser** torches 5 **carried** by the **locating** frame G. The optical distributor devices 8 are not shown in detail in the present...

...made and sold by Lumonics JK Industrial Products, together with YAG (Yttrium, Aluminium, Garnet) laser **emitters** . In any **case** , the structures of the laser emittors and the respective optical distributors do not fall within...

43/5,K/10 (Item 10 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00380027
Laser welding monitoring system and method.
Laserschweissuberwachungssystem und Verfahren.
Systeme et methode de controle de soudage au laser.
PATENT ASSIGNEE:
FIAT AUTO S.p.A., (416350), Corso Giovanni Agnelli 200, I-10135 Torino, (IT), (applicant designated states: DE;ES;FR;SE)
INVENTOR:
Robertson, Paul Andrew, 41 Whitehall Gardens, Duxford Cambridgeshire CB2 4QL, (GB)
Lowry, John Brian, 37 Park Road, Sawston Cambridgeshire CB2 4TA, (GB)
LEGAL REPRESENTATIVE:
Bosotti, Luciano et al (51221), c/o Jacobacci-Casetta & Perani S.p.A. Via Alfieri, 17, I-10121 Torino, (IT)
PATENT (CC, No, Kind, Date): EP 370967 A1 900530 (Basic)
EP 370967 B1 920930
APPLICATION (CC, No, Date): EP 89830496 891114;
PRIORITY (CC, No, Date): GB 8827282 881122
DESIGNATED STATES: DE; ES; FR; SE
INTERNATIONAL PATENT CLASS: B23K-026/04;
CITED PATENTS (EP A): US 4417127 A; EP 266764 A

ABSTRACT EP 370967 A1

A laser welding, monitoring system comprising a laser welding beam energy source (1) and means (2) for directing laser beam energy from said source and on to a concentrated laser weld spot (3) on the workpiece (4) to be welded shaped or cut by laser energy. A laser probe source is arranged to direct light from said probe source on to the workpiece (4). Laser beam detector means (5, 14, 15) is arranged to pick up and monitor reflected light originating from said laser probe source and reflected back from the workpiece, wherein the light from said probe source is directed in a peripheral path encircling said concentrated laser weld spot.

ABSTRACT WORD COUNT: 115

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	900530 A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	901205 A1	Date of filing of request for examination: 900925
Examination:	910821 A1	Date of despatch of first examination report: 910705
Grant:	920930 B1	Granted patent
Oppn None:	930922 B1	No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; Italian

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	278
CLAIMS B	(German)	EPBBF1	263
CLAIMS B	(French)	EPBBF1	295
SPEC B	(English)	EPBBF1	2378
Total word count - document A			0
Total word count - document B			3214
Total word count - documents A + B			3214

...SPECIFICATION CO2 laser may be used, since this can provide sufficient intense power, and this will **normally** be guided by mirrors (for example within a **robot**) so that the beam **energy** emerges **through** a small nozzle (not shown in Figure 1) located a few millimeters from the workpiece...

...fine control signals described earlier in order to effect larger movements that are beyond the **range** of the focus control system.
Referring now to Figure 2, this shows the probe beam...

43/5,K/11 (Item 11 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

00316926

Spray gun for robot mounting.

Spritzpistole zur Verwendung mit einem Roboter.

Pistolet-pulverisateur pour utilisation avec un robot.

PATENT ASSIGNEE:

ILLINOIS TOOL WORKS INC., (578540), 8501 West Higgins Road, Chicago, Illinois 60631-2887, (US), (applicant designated states: BE;DE;FR;GB;IT)

INVENTOR:

Gimple, James J., 6267 Seaman Road, Oregon Ohio, (US)

LEGAL REPRESENTATIVE:

Sturt, Clifford Mark et al (50501), MARKS & CLERK 57-60 Lincoln's Inn Fields, London WC2A 3LS, (GB)

PATENT (CC, No, Kind, Date):	EP 310358	A2	890405 (Basic)
	EP 310358	A3	900214
	EP 310358	B1	930721
APPLICATION (CC, No, Date):	EP 88308997		880928;

PRIORITY (CC, No, Date): US 101881 870928

DESIGNATED STATES: BE; DE; FR; GB; IT

INTERNATIONAL PATENT CLASS: B05B-005/08; B05B-005/025;
CITED PATENTS (EP A): GB 2161095 A; US 4679734 A; GB 2171222 A; US 4545536 A; US 4612598 A; US 4660771 A; US 4568026 A

ABSTRACT EP 310358 A2
An improved spray gun for mounting on a programmable industrial **robot**. A housing and manifold are attached to the **robot** and a spray head is removably attached to the manifold. The manifold includes fluid passages for supplying liquid, atomization air, fan air and pilot air to the spray head and for returning fluid from the spray head. A remotely controlled regulator is located in the manifold liquid passage and a remotely controlled valve is located in the manifold fluid return passage. One or two electrically actuated pilot valves supply pilot air to simultaneously operate atomization air and pattern shaping air control valves in the manifold passages and to operate a trigger valve in the spray head. A **power** supply module may be **located** in the housing for applying an electrostatic voltage through the manifold to the spray head for charging the coating liquid.
ABSTRACT WORD COUNT: 147

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	890405	A2	Published application (Alwith Search Report ;A2without Search Report)
Examination:	890719	A2	Date of filing of request for examination: 890512
Search Report:	900214	A3	Separate publication of the European or International search report
Examination:	910904	A2	Date of despatch of first examination report: 910723
Change:	911211	A2	Representative (change)
*Assignee:	911211	A2	Applicant (transfer of rights) (change): ILLINOIS TOOL WORKS, INC. (578545) 8501 West Higgins Road Chicago Illinois 60631 (US) (applicant designated states: BE;DE;FR;GB;IT)
*Assignee:	911211	A2	Previous applicant in case of transfer of rights (change): THE DEVILBISS COMPANY (a Delaware Corp.) (959740) PO Box 913 300 Phillips Avenue Toledo Ohio 43692 (US) (applicant designated states: BE;DE;FR;GB;IT)
*Assignee:	920603	A2	Applicant (transfer of rights) (change): ILLINOIS TOOL WORKS INC. (578540) 8501 West Higgins Road Chicago, Illinois 60631-2887 (US) (applicant designated states: BE;DE;FR;GB;IT)
Grant:	930721	B1	Granted patent
Lapse:	940622	B1	Date of lapse of the European patent in a Contracting State: BE 930721, FR 931210
Lapse:	940622	B1	Date of lapse of the European patent in a Contracting State: FR 931210
Oppn None:	940713	B1	No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	714
CLAIMS B	(German)	EPBBF1	656
CLAIMS B	(French)	EPBBF1	868
SPEC B	(English)	EPBBF1	5253
Total word count - document A			0
Total word count - document B			7491
Total word count - documents A + B			7491

...ABSTRACT A2
An improved spray gun for mounting on a programmable industrial **robot**. A housing and manifold are attached to the **robot** and a spray head is removably attached to the manifold. The manifold includes fluid passages ...

...in the manifold passages and to operate a trigger valve in the spray head. A **power** supply module may be **located** in the housing for

applying an electrostatic voltage through the manifold to the spray head ...

...SPECIFICATION for robot mounting. Further, valves for controlling coating material triggering and pressure regulation, atomization air, **pattern** shaping air **and** fluid return are located within inches of the spray gun nozzle assembly. This arrangement in...

...spray gun, several robot mounted spray guns in different spray booths will have the same **response** time. This allows initially generating a program in **a** teaching spray **booth** and uploading the program to several different coating **robots** without **loss** in quality or uniformity of the coating applied to the workpieces. Operating flexibility is enhanced...

...separate air lines allow for remote pattern size adjustment by the system controller. The electrostatic **power** supply is **located** in the spray gun housing at the end of the **robot** arm to eliminate the need to run a high voltage cable along or through the...

43/5,K/12 (Item 12 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

00312673

Control device for regulating flow of pressurized gas between two pressurized gas devices

Vorrichtung zum Steuern oder Regeln des Durchflusses eines Druckgases zwischen zwei Druckgasvorrichtungen

Appareil de regulation du debit d'un gaz sous pression entre deux appareils fonctionnant sous pression

PATENT ASSIGNEE:
PARKER HANNIFIN CORPORATION, (422260), 17325 Euclid Avenue, Cleveland Ohio 44112, (US), (applicant designated states: DE;FR;GB)
INVENTOR:
Waller, Michael V., 2 Heritage Trace, Newnan Georgia 30263, (US)
Palance, David M., 22 Westchester Ht. Nr. 26, Milford New Hampshire 03055 , (US)
LEGAL REPRESENTATIVE:
Purvis, William Michael Cameron et al (35031), D. Young & Co., 21 New Fetter Lane, London EC4A 1DA, (GB)

PATENT (CC, No, Kind, Date): EP 294072 A2 881207 (Basic)
EP 294072 A3 900307
EP 294072 B1 940518
APPLICATION (CC, No, Date): EP 88304685 880524;
PRIORITY (CC, No, Date): US 56916 870601
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: G05D-016/20
CITED PATENTS (EP A): EP 107610 A; EP 107610 A; EP 137932 A; US 3434407 A; GB 2016746 A; EP 127875 A
CITED REFERENCES (EP A):
PATENT ABSTRACTS OF JAPAN, vol. 10, no. 44 (M-455) 2101 , 21st February 1986; & JP-A-60 196 412 (MATSUSHITA DENKI SANGYO K.K.) 04-10-1985
IDEM.;

ABSTRACT EP 294072 A2

A pneumatic circuit pressure control device includes an electronic comparator (51,53) for comparing a transducer (19) generated pressure signal (41,49) from a pneumatic circuit (13) and a desired pressure signal (31,39) from a desired pressure input generator (21). The comparison circuit selectively actuates solenoid-actuated valves (15,17) which control the pressure in the pneumatic circuit (13). Preferably, the solenoid (27) of the solenoid-actuated valve (17) produces an electromagnetic field for electromagnetic induction of a circuit (73) which oscillates the solenoid-actuated valve (17) to produce a variable orifice-like effect when small changes in pressure are demanded by the comparator circuit (51,53).

ABSTRACT WORD COUNT: 103

LEGAL STATUS (Type, Pub Date, Kind, Text):
Application: 881207 A2 Published application (Alwith Search Report ;A2without Search Report)
Change: 900117 A2 International patent classification (change)
Search Report: 900307 A3 Separate publication of the European or International search report
Examination: 901017 A2 Date of filing of request for examination: 900825
Examination: 921223 A2 Date of despatch of first examination report: 921105
Grant: 940518 B1 Granted patent
Oppn: 950419 B1 Opposition 01/950214 Joh. Vaillant GmbH u. Co; Berghauser Str. 40 Postfach 10 10 20; D-42850 Remscheid; (DE)
(Representative:)Heim, Johann-Ludwig, Dipl.-Ing.; c/o Johann Vaillant GmbH u. Co. Postfach 10 10 20 Berghauser Strasse 40; D-42850 Remscheid; (DE)
Amended: 981111 B2 Maintenance of the European patent as amended
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	9846	230
CLAIMS B	(German)	9846	231
CLAIMS B	(French)	9846	270
SPEC B	(English)	9846	2661
Total word count - document A			0
Total word count - document B			3392
Total word count - documents A + B			3392

...SPECIFICATION 13 which carried a pressurized gas. The conduit 13 is part of a pneumatic circuit **which** supplies gas to a desired **location** such as an industrial **robot** .
An exhaust valve 15 and a pressure valve 17 are provided on the conduit 13...

...comparator circuit 23 is utilized. The comparator circuit 23 adjusts the voltage or current of **the signals** so that they may be directly compared, then compares the two signals and electrically actuates...

43/5,K/13 (Item 13 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00269856
Method and apparatus for detecting leaks in automotive vehicle bodies.
Verfahren und Vorrichtung zur Leckfeststellung in KFZ-Karosserie.
Methode et appareil pour detecter des fuites dans les carrosseries de vehicule automobile.
PATENT ASSIGNEE:
GENERAL MOTORS CORPORATION, (203111), General Motors Building 3044 West Grand Boulevard, Detroit Michigan 48202, (US), (applicant designated states: DE;FR;GB;IT)
INVENTOR:
Blaser, Dwight Allen, 32362 Hampton Court, Fraser Michigan 48026, (US)
Nemanis, Kestutis Petras, 19757 Sumner, Redford Township Michigan 48240, (US)
Zik, James Joseph, 3565 Tienken Road, Rochester Michigan 48063, (US)
Hess, Edward Charles, 34227 Glouster Circle, Farmington Hills Michigan 48018, (US)
LEGAL REPRESENTATIVE:
Denton, Michael John (51983), Patent Section Vauxhall Motors Limited 1st Floor Gideon House 26 Chapel Street, Luton Bedfordshire LU1 2SE, (GB)
PATENT (CC, No, Kind, Date): EP 260818 A2 880323 (Basic)
EP 260818 A3 880713

EP 260818 B1 901128
APPLICATION (CC, No, Date): EP 87307312 870819;
PRIORITY (CC, No, Date): US 908621 860918
DESIGNATED STATES: DE; FR; GB; IT
INTERNATIONAL PATENT CLASS: G01M-003/24;
CITED PATENTS (EP A): DE 2854238 A; FR 2310558 A; BE 901230 A; DE 2823976 B

ABSTRACT EP 260818 A2
Seals in an automotive body are inspected for leaks by sensing ultrasonic energy passing through a seal. Either an ultrasonic emitter (28) or a detector (32) is scanned along a seal outside the body by means of a robot (30), with, correspondingly, either a detector or an ultrasonic emitter being located inside the body.
The emitter operates at frequencies in a range of 65 to 80 kHz, and repetitively sweeps through a frequency range of 6 kHz.
The automotive body may be either open or closed.
ABSTRACT WORD COUNT: 90

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	880323	A2	Published application (Alwith Search Report ;A2without Search Report)
Search Report:	880713	A3	Separate publication of the European or International search report
Examination:	881130	A2	Date of filing of request for examination: 880927
Change:	890308	A2	Representative (change)
Examination:	900228	A2	Date of despatch of first examination report: 900109
Grant:	901128	B1	Granted patent
Oppn None:	911121	B1	No opposition filed
Lapse:	920102	B1	Date of lapse of the European patent in a Contracting State: FR 910419
Lapse:	920819	B1	Date of lapse of the European patent in a Contracting State: FR 910419, GB 910819

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPABF1	782
SPEC B	(English)	EPABF1	2416
Total word count - document A			0
Total word count - document B			3198
Total word count - documents A + B			3198

...CLAIMS apparatus for inspecting an automotive vehicle body for leaks, comprising:
a first transducer comprising an **ultrasonic emitter** (28); means (70,72,74) for driving the emitter to sweep the emitted energy through...

...having a centre frequency of at least about 65 kHz;
a second transducer comprising an **ultrasonic receiver** (32) responsive to the emitted energy;
robot means (30) for scanning one of the transducers...

...other of the transducers (28,32) being located inside the body (10), such that the **ultrasonic** energy is **received** by the receiver (32) at a low level if no leak is present in the inspection zone whereas if the inspection zone is moved to a leak **location** an increase in received **energy** is detected, indicating the presence of leak; and
a computer (24) coupled to the **robot** means (30) and to the receiver (32) and programmed to respond to the detection of...

...according to any one of claims 1 to 4, characterised in that:
a set of **ultrasonic emitters** (28) as aforesaid is located outside the body (10), with each emitter (28) being operated...
...a predetermined path outside the body (10) to define moving inspection zones;
a plurality of **ultrasonic receivers** (32) as aforesaid are

responsive each to one of the emitter frequency bands and are located inside the body (10) so that the **ultrasonic** energy is **received** by a receiver (32) at a low level if no leak is encompassed by any inspection zone whereas if an inspection zone is moved to a leak **location** an increase in received **energy** occurs; and

the computer (46) is coupled to the **robots** and to the receivers (32) and programmed, in response to the detection of a leak ...

43/5,K/14 (Item 14 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

00253968

Wave-leakage measuring apparatus.

Gerat zur Messung des Verlustes von Wellen.

Appareil de mesure de la fuite d'ondes.

PATENT ASSIGNEE:
Matsushita Electric Industrial Co., Ltd., (216883), 1006, Oaza Kadoma, Kadoma-shi Osaka-fu, 571, (JP), (applicant designated states: DE;FR;GB;IT;SE)

INVENTOR:
Fukui, Tamio, 15-2, Rokujonishi 3-chome, Nara-shi Nara-ken, (JP)
Momoji, Isao, 434, Oaza Ryuguchi Muromura, Uda-gun Nara-ken, (JP)

LEGAL REPRESENTATIVE:
Eisenfuhr, Speiser & Strasse (100151), Martinistrasse 24, D-2800 Bremen 1 , (DE)

PATENT (CC, No, Kind, Date): EP 283535 A1 880928 (Basic)
EP 283535 B1 901017
APPLICATION (CC, No, Date): EP 87104327 870324;
PRIORITY (CC, No, Date): EP 87104327 870324
DESIGNATED STATES: DE; FR; GB; IT; SE
INTERNATIONAL PATENT CLASS: G01R-029/08; G01R-021/01;
CITED PATENTS (EP A): US 4565967 A; US 4565967 A; US 4354153 A

ABSTRACT EP 283535 A1

According to the present invention, the wave-leakage measuring apparatus compares the power density of the leakage waves, in the portions on the upper side, the lower side, the left side, the right side of the high-frequency heating apparatus measured from two steps, with the leakage locations by the central data processing computer to select one of the maximum wave-leakage **locations** , brings one of the **power** -density detectors to the maximum wave-leakage location by the **robot** , precisely measures the power density of the leakage waves while the wave-mode converting apparatus makes at least one rotation to automatically decide the quality in the measured values by the central data processing computer.

ABSTRACT WORD COUNT: 112

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	880928 A1	Published application (A1with Search Report ;A2without Search Report)
Examination:	880928 A1	Date of filing of request for examination: 870324
Examination:	890308 A1	Date of despatch of first examination report: 890123
Grant:	901017 B1	Granted patent
Oppn None:	911009 B1	No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPABF1	988
SPEC B	(English)	EPABF1	8029
Total word count - document A			0
Total word count - document B			9017
Total word count - documents A + B			9017

...ABSTRACT locations by the central data processing computer to select one of the maximum wave-leakage **locations** , brings one of the **power** -density detectors to the maximum wave-leakage location by the **robot** , precisely measures the power density of the leakage waves while the wave-mode converting apparatus...

...SPECIFICATION it notifies from the sequence controller 37 of the step to the central data processing **computer** 33 that the **position** data of the maximum wave-leakage location detected by the first power-density detector and the **detector** specification **data** for specifying one power-density detector among the detectors 29 for precise measurement use, which...

...be fed to the robot controller 40 of the robot 32. The central data processing **computer** 33, the **position** **data** and the **detector** specification **data** to the robot controller 40 of the robot 32. It is notified that the position **data** and the **detector** specification **data** have been fed to the sequence controller 37 of this step. Then, the driving start...

...a given distance towards the direction of the high-frequency heating apparatus 25 to be **measured** of the W- **direction** , through the air cylinder 57 directly connected with the detector. Also, the movable arm 56...

...the conveyer 10, it notifies from the sequence controller 65 of the central data processing **computer** 33 that the **position** data of the maximum wave-leakage **location** detected by the first **power** -density detector may be fed to the **robot** controller 66 of the multiple articulated **robot** 58. The central data processing **computer** 33 feeds the **position** data to the robot controller 66 of the multiple articulated robot 58 and thereafter notifies...

43/5,K/15 (Item 15 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00221847
Mobile vehicle controller utilization of delayed absolute position data for guidance and navigation.
Regler fur ein ferngesteuertes Fahrzeug unter Verwendung der verzogerten absoluten Positionsdaten fur Lenkung und Navigation.
Controleur pour un vehicule mobile utilisant les dates absolues retardees de position pour le guidage et la navigation.
PATENT ASSIGNEE:
TEXAS INSTRUMENTS INCORPORATED, (279070), 13500 North Central Expressway, Dallas Texas 75265, (US), (applicant designated states: BE;DE;FR;GB;IT;SE)
INVENTOR:
Wand, Martin A., 1133 Meandering Way, Garland, TX 75040, (US)
Christian, Donald J., 1222 Dumont Street, Richardson, TX 75080, (US)
Woodall, Joe D., 2409 Poppy Lane, Euless, TX 76039, (US)
Williston, John P., 4533 Eldorado Drive, Plano, TX 75075, (US)
Rice, Jay H., 13100 Pandora, No. 104, Dallas, TX 75238, (US)
Summerville, David F., 3002 Glenbrook Drive, Garland, TX 75401, (US)
LEGAL REPRESENTATIVE:
Abbott, David John et al (27491), Abel & Imray Northumberland House 303-306 High Holborn, London, WC1V 7LH, (GB)
PATENT (CC, No, Kind, Date): EP 213939 A2 870311 (Basic)
EP 213939 A3 881005
EP 213939 B1 920812
APPLICATION (CC, No, Date): EP 86306677 860829;
PRIORITY (CC, No, Date): US 771329 850830; US 771431 850830; US 771432 850830; US 771443 850830; US 772280 850830
DESIGNATED STATES: BE; DE; FR; GB; IT; SE
INTERNATIONAL PATENT CLASS: **G05D-001/03**
CITED PATENTS (EP A): FR 2526181 A; FR 2526181 A; FR 2526181 A; GB 2129161

A; GB 2129161 A; GB 2129161 A; EP 159553 A; US 3653769 A; US 4219847 A; US 4396945 A; US 4107689 A; US 4107689 A
CITED REFERENCES (EP A):
PATENT ABSTRACTS OF JAPAN, vol. 9, no. 253 (P-395) 1976 , 11th October 1985; & JP - A - 60 103 413 (DAIFUKU KIKO) 07-06-1985
PATNT ABSTRACTS OF JAPAN, vol. 7, no. 10 (P-168) 1155 , 14th January 1983; & JP - A - 57 168 308 (DAIFUKU) 16-10-1982;

ABSTRACT EP 213939 A2
A controllable mobile apparatus travels to a commanded destination under the control of a dead reckoning navigation procedure 329 for navigating the controllable mobile apparatus along the commanded path in response to position data. The mobile apparatus determines its position and provides the position data. Additionally, there is a software filter system which filters the speed and direction commands. A vision system provides the absolute position to the mobile apparatus. The dead reckoning position data is periodically modified 331, 328 with the absolute position. The dead reckoning procedure is synchronized with the vision system.
ABSTRACT WORD COUNT: 98

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	870311	A2	Published application (Alwith Search Report ;A2without Search Report)
Search Report:	881005	A3	Separate publication of the European or International search report
Examination:	890614	A2	Date of filing of request for examination: 890405
Examination:	901205	A2	Date of despatch of first examination report: 901024
Grant:	920812	B1	Granted patent
Oppn None:	930804	B1	No opposition filed

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	694
CLAIMS B	(German)	EPBBF1	640
CLAIMS B	(French)	EPBBF1	800
SPEC B	(English)	EPBBF1	19850
Total word count - document A			0
Total word count - document B			21984
Total word count - documents A + B			21984

INTERNATIONAL PATENT CLASS: **G05D-001/03**

...SPECIFICATION mobile apparatuses 21 as indicated by path 579.
Figure 41 is the logic for the **battery** station controller 515 **in** which at block 579 the **battery** station controller 515 is at initial **position** and it monitors the batteries currently being recharged at block 581. At decision block 583...

...recharged, etc. and returns to the start postion at block 587
CONTROLLER FOR A MOBILE **ROBOT** SYSTEM
As was discussed in conjunction with Figure 35,

43/5,K/16 (Item 16 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

00221846
Failsafe brake for a multi-wheel vehicle with motor controlled steering.
Eigensichere Bremse fur ein mehrradriges Fahrzeug mit motorgesteuerter Lenkung.
Frein fiable pour un vehicule a plusieurs roues muni d'une conduite actionnee par un moteur.
PATENT ASSIGNEE:
TEXAS INSTRUMENTS INCORPORATED, (279070), 13500 North Central Expressway,

Dallas Texas 75265, (US), (applicant designated states:
BE;DE;FR;GB;IT;SE)
INVENTOR:
Doty, Thomas J., 12338 Creekspan Drive, Dallas, TX 75243, (US)
LEGAL REPRESENTATIVE:
Abbott, David John et al (27491), Abel & Imray Northumberland House
303-306 High Holborn, London, WC1V 7LH, (GB)
PATENT (CC, No, Kind, Date): EP 213938 A2 870311 (Basic)
EP 213938 A3 881012
EP 213938 B1 920805
APPLICATION (CC, No, Date): EP 86306676 860829;
PRIORITY (CC, No, Date): US 771379 850830
DESIGNATED STATES: BE; DE; FR; GB; IT; SE
INTERNATIONAL PATENT CLASS: **G05D-001/03**
CITED PATENTS (EP A): GB 2129161 A; GB 2095350 A; DE 2344291 A; DE 3214408 A

ABSTRACT EP 213938 A2
A braking system for a controllable mobile robot with a plurality of wheels which carry the robot to a specified position in response to commands from a guidance system. The braking system is used in conjunction with servo motors that are used for steering the mobile apparatus and includes a capacitor 391 which stores power during non-braking conditions. During braking, a relay, with contacts 393, 403, 401, and 397, transfers power from the capacitor to the servo motors 64 that are used to steer the robot and is connected in such a manner as to uncoordinate the steering wheels and to cause them to turn in a direction that opposes the forward motion of the robot.
ABSTRACT WORD COUNT: 120

LEGAL STATUS (Type, Pub Date, Kind, Text):
Application: 870311 A2 Published application (A1with Search Report ;A2without Search Report)
Search Report: 881012 A3 Separate publication of the European or International search report
Examination: 890614 A2 Date of filing of request for examination: 890410
Examination: 901205 A2 Date of despatch of first examination report: 901024
Grant: 920805 B1 Granted patent
Oppn None: 930728 B1 No opposition filed
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	453
CLAIMS B	(German)	EPBBF1	247
CLAIMS B	(French)	EPBBF1	271
SPEC B	(English)	EPBBF1	19560
Total word count - document A			0
Total word count - document B			20531
Total word count - documents A + B			20531

INTERNATIONAL PATENT CLASS: **G05D-001/03**

...SPECIFICATION end of the subroutine via tie point P4.
Tie point P3 which is the "No" **route** taken **after** a decision is made at block 458 provides for linearly scanning each camera zone of the plurality of **cameras** 1 once **in search** of the mobile apparatus **21** at block 481. Then at block 483, a query is made, "was the mobile apparatus 21 or **robot located** ?". If the answer is no, then tie point P5 ties back into labeling the mobile...

...invisible at block 480. Block 485, which is taken if the mobile apparatus 21 is **located** either at block 483 or at block 473, labels the mobile apparatus 21 as being...

...to zero at block 487. The proper camera zone and the mobile apparatus 's 21 **position** is identified at decision block 489 and the subroutine ends

at block 491.
NETWORK FOR THE CONTROL OF A MOBILE **ROBOT** SYSTEM
In Figure 1, there is shown a mobile apparatus system for controlling a single...point C is implemented in Figure 42D, and it is only used when there is **a** **battery** changing apparatus available and includes a decision block 637 to ascertain that a battery changer...

...has reached its final destination. The battery is then changed at block 645 and the **planner** scheduler 505 returns to block 607 and proceeds through the loop that is illustrated in...
...that is connected to tie point D is illustrated in Figure 42E to which reference **should** now be made. It implements the parking of the controllable mobile apparatus 21. Block 647...

43/5,K/17 (Item 17 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00217188
A robot hand.
Roboterhand.
Main de robot.
PATENT ASSIGNEE:
KABUSHIKI KAISHA TOSHIBA, (213130), 72, Horikawa-cho Saiwai-ku, Kawasaki-shi Kanagawa-ken 210, (JP), (applicant designated states: DE;FR;GB)
INVENTOR:
Hashimoto, Hideaki c/o Patent Division, Toshiba Corporation Principal Office, 1-1, Shibaura 1-chome Minato-ku Tokyo, (JP)
LEGAL REPRESENTATIVE:
Kirk, Geoffrey Thomas et al (32661), BATCHELLOR, KIRK & CO. 2 Pear Tree Court Farringdon Road, London EC1R 0DS, (GB)
PATENT (CC, No, Kind, Date): EP 236611 A1 870916 (Basic)
EP 236611 B1 910925
APPLICATION (CC, No, Date): EP 86301866 860314;
PRIORITY (CC, No, Date): EP 86301866 860314
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: B25J-019/02; **B25J-013/08**
CITED PATENTS (EP A): EP 171303 A; EP 171303 A; EP 86669 A; EP 67880 A; EP 121413 A; DE 3242256 A; WO 8404723 A
CITED REFERENCES (EP A):
ROBOTICS TODAY, Fall 1981, pages 31,32; K.R. WILSON: "Fiber optics: Practical vision for the robot"
ELECTRONIQUE INDUSTRIELLE, no. 13, 1st April 1981, new serie, pages 77-79, Paris, FR; R. FONTENAY: "Robotique: le doigt opto- lectronique"
PATENTS ABSTRACTS OF JAPAN, vol. 2, no. 129, 27th October 1978, page 7814 E 78; & JP-A-53 96 648 (KOGYO GIJUTSUIN) 24-08-1978;

ABSTRACT EP 236611 A1
A robot hand has six optical approach sensors (22-27) of which four (24-27) are attached to the outside of the fingers (82, 84) and the other two (22, 23) are inside the fingers. The optical approach sensor is provided with phototransistors (142, 144) and LEDs (132, 134) (light-emitting diodes). These sensors are used for detecting the existence of objects to be grasped or obstacles, for measuring the distance between the hand tip and the obstacles and for controlling the robot hand in order to avoid the obstacles. Signals indicating the distance and the existence of obstacles are obtained by two selecting or switiching means for connecting phototransistors and LEDs.
ABSTRACT WORD COUNT: 113
LEGAL STATUS (Type, Pub Date, Kind, Text):
Application: 870916 A1 Published application (A1with Search Report ;A2without Search Report)
Examination: 870916 A1 Date of filing of request for examination: 860327
Examination: 900124 A1 Date of despatch of first examination report: 891206

Grant: 910925 B1 Granted patent
Oppn None: 920916 B1 No opposition filed
LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS B	(English)	EPBBF1	430
CLAIMS B	(German)	EPBBF1	275
CLAIMS B	(French)	EPBBF1	314
SPEC B	(English)	EPBBF1	2517
Total word count - document A			0
Total word count - document B			3536
Total word count - documents A + B			3536

...INTERNATIONAL PATENT CLASS: **B25J-013/08**
...SPECIFICATION of the robot motion, a store of position and sequence data are performed to position **the manipulator** at a predetermined position.
Sensors 22 to 27 are connected with the **robot** driving **controller** 300 through a **sensor circuit** 400 which is attached on **robot** hand 21 and by a lead **cable 31** arranged to keep **parallel** with **arms 34** , 36.
Each optical sensor, such as **sensor 22** , as shown **in** Figure **2** , **comprises** a **light - emitting** diode (LED) 42 and a phototransistor 44 in a shell 46 and disposed to act...

43/5,K/18 (Item 18 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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00113143
Robot capable of moving on inclined or vertical surfaces.
Auf geneigten oder vertikalen Flachen bewegbarer Roboter.
Robot capable de se deplacer sur parois inclinees ou verticales.
PATENT ASSIGNEE:
INTERNATIONAL ROBOTIC ENGINEERING INC., Suite 1310 485 Madison avenue, New York, N.Y. 10020, (US), (applicant designated states: AT;BE;CH;DE;GB;IT;LI;LU;NL;SE)
INVENTOR:
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LEGAL REPRESENTATIVE:
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PATENT (CC, No, Kind, Date): EP 106709 A2 840425 (Basic)
EP 106709 A3 840530
APPLICATION (CC, No, Date): EP 83401297 830622;
PRIORITY (CC, No, Date): FR 8210986 820623
DESIGNATED STATES: AT; BE; CH; DE; GB; IT; LI; LU; NL; SE
INTERNATIONAL PATENT CLASS: **B25J-005/00** ; B62D-057/02
CITED PATENTS (EP A): BE 861842 A; EP 63073 A; EP 10034 A; US 3409854 A; GB 2065065 A

ABSTRACT EP 106709 A2 (Translated)
Its aim is to provide a **robot** which is simpler and more mobile than existing **robots** with multiple feet. The **robot** of the invention of the bipedal type. A body (9) carries two legs (1, 2) equipped with feet (5, 6) capable of transmitting to the support surface the bending means resulting from the lack of balance of the **robot** when it is connected to this support surface via a single leg. Each leg can catch in predetermined **locations** on the support surface, the **power** and the command or information signals pass via the foot and the support surface in at least some of the predetermined **locations** .
TRANSLATED ABSTRACT WORD COUNT: 110

ABSTRACT EP 106709 A2
Robot capable de se deplacer sur parois inclinees ou verticales.

L'invention concerne un robot capable de se deplacer sur parois inclinees ou verticales.

Son but est de fournir un robot ayant une simplicite et une mobilite superieures aux robots multipodes existants. Le robot de l'invention est du type bipede. Un corps (9) porte deux pattes (1, 2) munies de pieds (5, 6) capables de transmettre a la surface-support les moyens flechissants resultant du desequilibre du robot quand il est relie a cette surface-support par une seule patte. Chaque patte peut s'accrocher en des emplacements predetermines de la surface-support, l'energie et les signaux de commande ou d'information passent par le pied et la surface-support dans au moins certains des emplacements predetermines.

ABSTRACT WORD COUNT: 122

LEGAL STATUS (Type, Pub Date, Kind, Text):

Application:	840425 A2	Published application (Alwith Search Report ;A2without Search Report)
Search Report:	840530 A3	Separate publication of the European or International search report
Examination:	850206 A2	Date of filing of request for examination: 841116
Refusal:	870930 A2	Date on which the European patent application was refused: 870511

LANGUAGE (Publication,Procedural,Application): French; French; French

INTERNATIONAL PATENT CLASS: **B25J-005/00** ...

...ABSTRACT Translated)

Its aim is to provide a **robot** which is simpler and more mobile than existing **robots** with multiple feet. The **robot** of the invention of the bipedal type. A body (9) carries two legs (1, 2...

...to the support surface the bending means resulting from the lack of balance of the **robot** when it is connected to this support surface via a single leg. Each leg can catch in predetermined **locations** on the support surface, the **power** and the command or information signals pass via the foot and the support surface in at least some of the predetermined **locations** .

43/5,K/19 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

00912105 **Image available**

ROBOT SYSTEM

SYSTEME ROBOTIQUE

Patent Applicant/Assignee:
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Legal Representative:
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Patent and Priority Information (Country, Number, Date):

Patent:	WO 200245915 A1 20020613 (WO 0245915)
Application:	WO 2001SE2671 20011204 (PCT/WO SE0102671)
Priority Application:	SE 20004465 20001204

Designated States: AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ CZ (utility model) DE DE (utility model) DK DK

(utility model) DM DZ EC EE EE (utility model) ES FI FI (utility model)
GB GD GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA
MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SK (utility model)
SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: B25J-009/16
International Patent Class: **B25J-005/00** ; B25J-009/00; **G05D-001/02**
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 7129

English Abstract
A mobile robot system for performing a plurality of separate operations comprising at least one autonomous wheeled mobile robot (1) having at least one wheel-driving motor; an on-board computer; means for navigation, orientation, and maneuvering in an environment with moving obstacles; a sensor system; and a wireless communication system for receiving and sending signals.

French Abstract
L'invention concerne un systeme robotique mobile destine a effectuer une pluralite d'operations separees et comprenant au moins un robot mobile autonome a roues (1) muni d'au moins un moteur d'entrainement des roues ; un ordinateur de bord ; un dispositif lui permettant de naviguer, de s'orienter et de manoeuvrer dans un environnement comprenant des obstacles mobiles ; un systeme de detection et un systeme de communication sans fil lui permettant de recevoir et d'envoyer des signaux.

Legal Status (Type, Date, Text)
Publication 20020613 A1 With international search report.

International Patent Class: **B25J-005/00** ...
... **G05D-001/02**
Fulltext Availability:
Detailed Description
Claims

Detailed Description
... by which they perform tasks of their own by a preprogrammed calculation.

Among the automatic **robots** there are specially two kinds: the track-finding **robot** and the border-finding **robot** , or combinations of the two. The track-finding **robot** carries means for finding a track, which in most cases is a buried wire that...

...embodiment of this system, the track-finding means comprises a navigation system from which the **robot** finds out the predetermined track. The border-finding **robot** is typically an automatic lawn mower or an automatic vacuum cleaner. These **robots** sometimes carries a semi-autonomous system to find its paths and the **location** for **battery recharging** .

They normally carry an onboard computer that is programmed to organize the planning of paths...

Claim
... of different applications. The autonomous mobile robot comprises an on-board computer, a plurality of **sensors** , a **signaling** interface a mechanical coupling interface and communication means. The computer comprises a processor, memory means and a plurality of computer programs

for controlling the **robot** . In the memory are stored digital maps of the present environment, navigation beacons and information...

...network, such as a wireless local area network (LAN) or the Internet. The sensors comprise **distance measuring** means, such as an ultrasonic radar, sound measuring means, such as a microphone, and visual measurement system, such as a vision system including optics and an **image sensor** like an electronic device that is capable of transforming a light pattern (image) into an electric **charge** pattern, such as a **Charge** -Coupled-Device (CCD). The signaling interface comprises protocols for sending and **receiving signals** , which carry information to and from sensors, operation modules and communication system. These **signals** are mainly **sent** on a local network which also comprises a wireless network. Thus the signal comprises a...

...in one embodiment is rotatable around a axis normal to the longitudinal axis of the **robot** . In yet another embodiment, the hitch frame comprises a lowerable and raisable bar with one...

...is preferably electromagnetic waves but may also comprise sonic or a light communication medium. The **robot** must be easily operated, without the need for complicated reprogramming. In a preferred embodiment, the **robot** is responding to spoken commands or commands sent via efficient communication means from a human...

...making their own decisions without requiring continual instructions and monitoring from an operator. An autonomous **robot** of this type is quite sophisticated. Not only is it able to determine where it...

...sensor and monitoring system as well as a strategy for avoiding obstacles. By introducing the **robot** system, resources are concentrated on the design and installation of an efficient **power** source, in most cases an on-board rechargeable **battery** pack. In a preferred embodiment, the autonomous **robot** decides on its own to go to a **charging** station when necessary and/or when not occupied by other tasks, and either **charge** its **batteries** or exchange **battery** packs leaving the spent pack at the station for **recharging** . In a preferred embodiment such an autonomous **robot** , included in a system with a plurality of operation modules, is used almost continuously and thereby profitably in environments where individual task-dedicated autonomous **robots** , such as a floor polishing **robots** would not be profitable. In a preferred embodiment, the operation module is provided with its own wheels. In this way they are storable and movable independently of the autonomous mobile **robot** and support their own loads. In another preferred embodiment, they are also be provided with their own **power** means, for lifting etc. They also have means for **electrical** connection as well as means for signaling and interaction with the autonomous mobile **robot** . In this way, a docked operation module is capable of powering the autonomous **robot** . An autonomous mobile **robot** normally has at least three wheels to be able to stand stable in an upright...

...By rotating the two driving wheels at different speeds or in a remote direction, the **robot** is steered by those driving wheels. In this case the third wheel must be freely this wheel happens to be one of the driving wheels, the **robot** can not move correctly. This, of course, can be avoided by having suspended wheels. In...

...functionality between the two pairs of wheels. In a preferred embodiment of the invention, the **robot** comprises a cylinder shaped central body carried and is driven on two wheels or just one wheel. In this embodiment, the **robot** comprises a frame carrying the mechanical interface on a pair of wheels. The frame acts...

...or four wheels. In any of these cases, the combined unit comprising an autonomous mobile **robot** and an operation module would have more than five wheels. According to the discussion above...

...would only have three wheels in firm contact with the ground. In one

...relation to the surroundings. It is shown in Fig. 8a mounted on the autonomous mobile **robot** of Fig. 4a and in Fig. 8b mounted on the autonomous mobile **robot** of Fig. 6a. Two sensors 18, which in this particular case are infrared **distance measuring** sensors, are directed rearwardly on either side of the coupled operation module. The sensors are...

...axis 20. All these above described movements of the sensors are servo-controlled by the **robot** . With reference to Figs. 9a and 9b, an unspecified operation module is coupled to an autonomous mobile **robot** 1 of the type shown in Figs. 4a, 4b and 7a. The infrared sensors 18...the operation module and the distance and direction thereto is registered by the autonomous mobile **robot** . The **robot** knows the dimensions (length, width, height, wheel placement and steering characteristics of the operation module...

...25. It will also continually monitor any obstacles and prompt a correction of the current **calculated** steering **path** should it become evident that it will not provide the desired obstacle avoidance. This sensor...

...also used to locate an operation module before coupling and for directing the autonomous mobile **robot** for coupling thereto. It is also used for backing the autonomous mobile **robot** with the operation module for parking thereof. Fig. 10 shows an alternative means for surveillance along the sides of the autonomous mobile **robot** /module unit using a pair of cameras 17 instead of infrared sensors. It is intended...

...is always parallel to the end wall of the module to which the autonomous mobile **robot** is coupled. On either side cameras 17 are mounted on brackets

16 which may be...

...sensor system; and a wireless communication system for receiving and sending, characterized in that said **robot** also comprises a coupling hitch frame (12) for autonomous selective mechanical and/or **electrical** coupling to and uncoupling from one of a plurality of different interchangeable wheeled operation modules...

43/5,K/20 (Item 2 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00912104 **Image available**
ROBOT SYSTEM
SYSTEME DE ROBOT
Patent Applicant/Assignee:
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Patent Applicant/Inventor:
SKOOG Hans, Hojdhoppargatan 9, S-722 41 Vasteras, SE, SE (Residence), SE (Nationality), (Designated only for: US)
Legal Representative:
ABB GROUP SERVICES CENTER AB (agent), Legal & Compliance/Intellectual Property, S-721 78 Vasteras, SE,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200245914 A1 20020613 (WO 0245914)
Application: WO 2001SE2676 20011204 (PCT/WO SE0102676)
Priority Application: SE 20004466 20001204
Designated States: AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ CZ (utility model) DE DE (utility model) DK DK (utility model) DM DZ EC EE EE (utility model) ES FI FI (utility model) GB GD GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SK (utility model) SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **B25J-005/00**
International Patent Class: B25J-009/08; **G05D-001/02** ; G05B-011/01
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 6921

English Abstract
An autonomous wheeled mobile robot (1) comprising at least one wheel-driving motor, an on-board computer; means for navigation, orientation, and maneuvering in an environment with moving obstacles; a sensor system; and a wireless communication system for receiving and sending.

French Abstract
L'invention concerne un robot autonome mobile (1) a roues comprenant au moins un moteur d'entrainement de roues, un ordinateur embarque; un moyen de navigation, d'orientation et de manoeuvre dans un environnement a obstacles mobiles; un systeme de capteurs; et un systeme de communication sans fil permettant la reception et l'envoi.

Legal Status (Type, Date, Text)
Publication 20020613 A1 With international search report.

Main International Patent Class: **B25J-005/00**
...International Patent Class: **G05D-001/02**
Fulltext Availability:
Detailed Description

Detailed Description
... by which they perform tasks of their own by a preprogranirned calculation.

Among the automatic **robots** there are specially two kinds: the track-finding **robot** and the border-finding **robot** , or combinations of the two. The track-finding **robot** carries means for finding a track, which in most cases is a buried wire that...
...magnetic field. In yet another embodiment of this system, the track-finding means comprises a **navigation** system from which the **robot** finds out the predetermined track. The border-finding **robot** is typically an automatic lawn mower or an automatic vacuum cleaner. These **robots** sometimes carry a semi-autonomous system to find its paths and the **location** for **battery recharging** .

They normally carry an onboard computer that is programmed to organize the planning of paths...of different applications.

The autonomous mobile robot comprises an on-board computer, a plurality of **sensors** , a **signaling** interface a mechanical coupling interface and communication means. The computer comprises a processor, memory means and a plurality of computer programs for controlling the **robot** . In the memory are stored digital maps of the present environment, navigation beacons and information...

...network, such as a wireless local area network (LAN) or the Internet. The sensors comprises **distance measuring** means, such as an ultrasonic radar, sound measuring means, such as a microphone, and visual measurement system, such as a vision system including optics and an **image sensor** like an electronic device that is capable of transforming a light pattern (image) into an electric **charge** pattern, such as a **Charge** -Coupled-Device (CCD).

The signaling interface comprises protocols for sending and receiving

Signals, which carry...

43/5,K/21 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00871044 **Image available**
METHOD AND APPARATUS FOR TERRAIN REASONING WITH DISTRIBUTED EMBEDDED PROCESSING ELEMENTS
PROCEDE ET DISPOSITIF D'ANALYSE DES PROPRIETES D'UN TERRAIN, A L'AIDE D'ELEMENTS DE TRAITEMENT INCORPORES ET DISTRIBUES
Patent Applicant/Assignee:
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Patent Applicant/Inventor:
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LEE Craig, 2623 Rockfeller Lane, Redando Beach, CA 90278, US, US (Residence), US (Nationality), (Designated only for: US)
DAILY Mike, 60 Inverness Rd., Thousand Oaks, CA 91361, US, US (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
TOPE-MCKAY Cary R (agent), Tope-McKay & Associates, 23852 Pacific Coast Highway #311, Malibu, CA 90265, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200205142 A2-A3 20020117 (WO 0205142)
Application: WO 2001US21849 20010710 (PCT/WO US0121849)
Priority Application: US 2000217226 20000710
Designated States: AE AG AL AM AT AT (utility model) AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ CZ (utility model) DE DE (utility model) DK DK (utility model) DM DZ EE EE (utility model) ES FI FI (utility model) GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: **G05D-001/02**
International Patent Class: **H04L-012/56** ; G06F-017/50
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 11890

English Abstract
A method and apparatus for computing properties of a physical environment is provided, using a plurality of agents forming a distributed network embedded within the environment. The method comprises determining an initiating agent (200), transmitting a signal including a cumulative cost value to neighboring agents (202), and processing the signal at each neighboring agent to augment the cumulative cost value with local information (204). If multiple signals are received, determining which has the best cumulative cost value for generating a new signal (206), then treating the neighboring agent as an initiating agent (208) and transmitting the new signal to neighboring agents (208) and retaining the best augmented cost value in memory (210). Methods further include determining paths using shortest path computations, using dual gradients for aligning agents on a path between two reference agents, and discovering and converging agents on choke points.

French Abstract
L'invention concerne un procede et un dispositif de calcul des proprietes d'un environnement physique, a l'aide de plusieurs agents formant un reseau distribue, integre dans l'environnement. Ce procede consiste a determiner un agent de mise en route (200), a transmettre a des agents voisins (202) un signal comprenant un cout cumule et a traiter le signal au niveau de chaque agent voisin, afin d'augmenter ce cout cumule au moyen d'informations locales (204). Si plusieurs signaux sont recus, le procede consiste a determiner lequel possede le meilleur cout cumule pour produire un nouveau signal (206), puis a traiter l'agent voisin en tant qu'agent de mise en route (208), a transmettre le nouveau signal aux agents voisins (208) et a conserver en memoire le meilleur cout augmente (210). Des procedes consistent encore a determiner des trajets, en utilisant des calculs du trajet le plus court, et en employant des gradients doubles pour aligner des agents sur un trajet entre deux agents de reference, et pour decouvrir des agents et les faire converger sur des points d'etranglement.

Legal Status (Type, Date, Text)
Publication 20020117 A2 Without international search report and to be republished upon receipt of that report.
Search Rpt 20020530 Late publication of international search report
Republication 20020530 A3 With international search report.

Main International Patent Class: **G05D-001/02**
International Patent Class: **H04L-012/56** ...
Fulltext Availability:
Claims

Claim
... the agent's coordinate system. (such as a compass, a directional transmitterl:receiver, etc.), a **distance measuring** device (such as a laser, infrared, sonic, or radar range finder) and one or more sensors. In more tangible terms, the agent could, for example, be a **robot** with an **infrared transmitterheceiver** and a set of wheels, where the **infrared transmitter / receiver** is used to **gauge** the **distances** and **directions** between the **robot** and other **robots** . In a more complicated situation, the same **robot** could also include an antenna for sending and receiving radio communications, a group of sensors...

...example) as a weighted sum of several physical properties, non-limiting examples of which include **signal transmission** quality, temperature, wind speed, and the angle of the path between the agents. Many cost...

...context. Also, the cost values generated at each agent in the plurality of agents in **response** to a **signal transmitted** by an initiating agent form a cost gradient pattem across the plurality of agents. Combined...

...given area. It is desirable to use signaling only between local agents to conserve transmission **power** . In regard to its use with respect to properties of the environment, properties that are...

...smoke detectors, sound detectors, visual sensors, seismic detectors, heatlinfrared detectors, chemical sensing devices, and GPS **sensors** . The **sensor information** may be incorporated into the cost value along a path or may be used to...

...be determined by creating a pattem of communications between nearest neighbors, wherein a source agent **transmits** a **signal** including a
cumulative cost value to each of its neighboring agents. Each neighboring agent **receives** the **signal** from the source and modifies the cumulative cost value based on the physical properties between the source and the respective neighboring agent, and **transmits** a new **signal** to its neighbors incorporating the modified cumulative cost value.
9
As the signal propagates through the plurality of agents, a single agent may **receive signals** with cumulative cost values from more than one of

within the building, cost values reflect **approximate** traversal **distances** to the target. All agents lying on an (inverted exclamation mark)so-intensity line are **approximately** the same **distance** from the detected target T 500. By following the agents up the cost value gradient ...

...location and pathways within the building 504. An example of the use of two distinet **signal** types for **detecting** two different targets is shown in FIG. 6. Note that although using two distinct signal...

43/5,K/22 (Item 4 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00802534
ANY-TO-ANY COMPONENT COMPUTING SYSTEM
SYSTEME INFORMATIQUE A COMPOSANTS TOUTE CATEGORIE
Patent Applicant/Assignee:
E-BRAIN SOLUTIONS LLC, 1200 Mountain Creek Road, Suite 440, Chattanooga, TN 34705, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
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LOWE Steven, 1625 Starboard Drive, Hixson, TN 37343, US, US (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
MEHRMAN Michael J (agent), Paper Mill Village, Building 23, 600 Village Trace, Suite 300, Marietta, GA 30067, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200135216 A2 20010517 (WO 0135216)
Application: WO 2000US31231 20001113 (PCT/WO US0031231)
Priority Application: US 99164884 19991112
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: G06F-009/44
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 275671

English Abstract
A universal data and software structure and method for an Any-to-Any computing machine in which any number of any components can be related to any number of any other components in a manner that is not intrinsically hierarchical and is intrinsically unlimited. The structure and method includes a Concept Hierarchy; each concept or assembly of concepts is uniquely identified and assigned a number in a Numbers Concept Language or uniquely identified in a Non-numbers Concept Language. Each Component or assembly of Components is intrinsically related to all other data items that contain common or related components.

French Abstract
L'invention concerne une structure de donnees et de logiciel universelle ainsi qu'un procede de machine informatique toute categorie dans laquelle des composants, quels qu'ils soient et quel que soit leur nombre, peuvent etre rattaches a d'autres composants, quels qu'ils soient et quel que soit leur nombre, d'une maniere intrinsequement non hierarchisee et intrinsequement illimitee. La structure et le procede comportent une

hierarchie conceptuelle; chaque concept ou ensemble de concepts est identifie de maniere unique et recoit un numero dans un langage conceptuel de nombres ou dans un langage conceptuel de non-nombres. Chaque composant ou ensemble de composants est intrinsequement rattache a tous les autres elements de donnees qui contiennent des composants communs ou associes.

Legal Status (Type, Date, Text)
Publication 20010517 A2 Without international search report and to be republished upon receipt of that report.

Fulltext Availability:
Claims

Claim
... of the Component storage method enables a computer to both to store, and subsequently to **find** any relationship of any data that actually has any relationship to any other **data** . To this degree, a computer is now enabled to process data on an Any-to...

43/5,K/23 (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2002 WIPO/Univentio. All rts. reserv.

00751202
ROBOT APPARATUS FOR DETECTING DIRECTION OF SOUND SOURCE TO MOVE TO SOUND SOURCE AND METHOD FOR OPERATING THE SAME
APPAREIL ROBOT CAPABLE DE DETECTER LA DIRECTION D'UNE SOURCE SONORE ET DE SE DEPLACER VERS CETTE SOURCE, ET PROCEDE METTANT EN OEUVRE LEDIT APPAREIL
Patent Applicant/Inventor:
KIM In-Kwang, #301 Gusam Villa, 223-10 Sangdo 4-dong, Dongjak-ku, Seoul 156-034, KR, KR (Residence), KR (Nationality)
Legal Representative:
CHOI Jong-Sik, Haecheon Bldg., 741-40 Yeoksam 1-dong, Kangnam-ku, Seoul 135-081, KR
Patent and Priority Information (Country, Number, Date):
Patent: WO 200063721 A1 20001026 (WO 0063721)
Application: WO 2000KR372 20000420 (PCT/WO KR0000372)
Priority Application: KR 9914029 19990420
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Main International Patent Class: G01S-015/36
Publication Language: English
Filing Language: Korean
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 26568

English Abstract
A robot apparatus for detecting a sound signal outputted from a sound signal generating unit to move to a position of the sound signal generating means, wherein the sound signal has a specific pattern, includes: at least three sound receiving unit (114) for receiving the sound signal; a phase difference detecting unit (118) for detecting a phase difference between each sound signal from the sound receiving unit (114); a processing unit (125) for determining a position of the sound generating unit using the phase difference, to generate a moving control signal; and a moving unit (130) for moving the robot apparatus in response to the moving control signal.

French Abstract
L'invention concerne un appareil robot capable de detecter un signal sonore provenant d'un emetteur de signal sonore, et de se deplacer vers une position dudit emetteur de signal sonore. Le signal sonore presente une configuration specifique et comprend: au moins un recepteur de son (114) pour recevoir le signal sonore; un detecteur de dephasage (118) pour detecter un dephasage dans chaque signal sonore provenant du recepteur de son (114); un processeur (125) utilisant le dephasage pour determiner une position de l'emetteur de son afin de generer un signal de commande de mouvement; et une unite d'impulsion de mouvement (130) pour deplacer l'appareil robot en reponse au signal de commande de mouvement.

Legal Status (Type, Date, Text)
Publication 20001026 A1 With international search report.
Publication 20001026 A1 In English translation (filed in Korean).

Fulltext Availability:
Detailed Description

Detailed Description
... the place of the sound source, and if there is an error on the analyzed **data** in **finding** the place of the sound source or the robot does not dock to the charger...

...under a control of the remote control unit 122, thereby making it possible for the **robot** to **find** the place of the **charger** .

Fig. 24 is a flow chart illustrating sequential steps of searching the place of the...

43/5,K/24 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00745002 **Image available**
BATTERY SYSTEM AND APPARATUS
SYSTEME ET APPAREIL POUR BATTERIE
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NANYANG TECHNOLOGICAL UNIVERSITY, School of Mechanical & Production Engineering, Nanyang Avenue, Singapore 639798, SG, SG (Residence), SG (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
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XIE Ming, Block 908 #06-209, 91 Jurong West Street, Singapore 640908, SG, SG (Residence), SG (Nationality), (Designated only for: US)
LIM Mong King, 34 Toh Tuck Road #02-05, Good Luck Garden, Singapore 596712, SG, SG (Residence), SG (Nationality), (Designated only for: US)
Legal Representative:
HAQ Murgiana, Haq & Namazie Partnership, Robinson Road, P.O. Box 765, Singapore 901515, SG
Patent and Priority Information (Country, Number, Date):
Patent: WO 200058139 A1 20001005 (WO 0058139)
Application: WO 99SG63 19990630 (PCT/WO SG9900063)
Priority Application: SG 991244 19990325
Designated States: AU CA CN JP NZ SG US
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Main International Patent Class: B60S-005/06
Publication Language: English
Filing Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 4238

English Abstract

The present invention provides an apparatus (1) for installation and/or removal of a battery pack for an electric vehicle or **robot** . The apparatus includes a battery pack (2) having a frame (3) for supporting at least one rechargeable battery (4), mobility means (7, 8, 9, 10) provided on the frame (3) enabling the battery pack to traverse or travel over a surface on which the **battery** pack (2) is **located** ; and lifting means (14, 15) provided on said frame (3) and adapted to raise the battery pack (2) from its position on the surface to an installation position in the vehicle/ **robot** above said surface. The lifting means (14, 15) is also adapted to lower the battery pack from the installation position in the vehicle/ **robot** to a position on the surface. The invention also provides a system for maintaining operative capability in an electric vehicle or **robot** equipped with an on-board battery pack. The system includes: (i) maintaining a supply of charged battery packs ready for use in the vehicle at a depot at which the vehicle can be received in the course of its operation; (ii) removing a spent or depleted battery pack from the vehicle; (iii) installing one of said charged battery packs from the supply at said depot; and (iv) retaining said spent or depleted battery pack at said depot for recharging and reuse.

French Abstract

L'invention concerne un appareil (1) permettant l'installation et/ou le retrait d'un bloc-batterie d'un vehicule electrique ou d'un robot. Ledit appareil comporte un bloc-batterie (2) dote d'un cadre (3) concu pour supporter au moins une batterie rechargeable (4), d'un moyen de deplacement (7, 8, 9, 10) prevu sur le cadre (3), permettant au bloc-batterie de traverser une surface sur laquelle il (2) se trouve ou de se deplacer sur cette derniere; et un moyen de levage (14, 15) prevu sur ledit cadre (3), concu pour monter le bloc-batterie (2) et pour le faire passer d'une position sur la surface a une position d'installation dans le vehicule/robot, au-dessus de ladite surface. Le moyen de levage (14, 15) est egalement concu pour abaisser le bloc-batterie et le faire passer de la position d'installation dans le vehicule/robot a une position sur la surface. L'invention se rapporte egalement a un systeme permettant le maintien d'une capacite operationnelle dans un vehicule electrique ou un robot equipe d'un bloc-batterie embarque. Ledit systeme consiste a: conserver un stock de blocs-batteries prets a l'emploi dans un depot dans lequel le vehicule peut etre recu durant son exploitation; (ii) enlever un bloc-batterie use ou decharge du vehicule; (ii) installer un desdits blocs-batteries provenant du stock dans ledit depot; (iv) conserver ledit bloc-batterie use ou decharge dans ledit depot en vue de sa recharge ou de sa reutilisation.

Legal Status (Type, Date, Text)
Publication 20001005 A1 With international search report.
Examination 20001214 Request for preliminary examination prior to end of 19th month from priority date

English Abstract

...1) for installation and/or removal of a battery pack for an electric vehicle or **robot** . The apparatus includes a battery pack (2) having a frame (3) for supporting at least...

...3) enabling the battery pack to traverse or travel over a surface on which the **battery** pack (2) is **located** ; and lifting means (14, 15) provided on said frame (3) and adapted to raise the...

...pack (2) from its position on the surface to an installation position in the vehicle/ **robot** above said surface. The lifting means (14, 15) is also adapted to lower the battery pack from the installation position in the vehicle/ **robot** to a position on the surface. The invention also provides a system for maintaining operative capability in an electric vehicle or **robot** equipped with an on-board battery pack. The system includes: (i) maintaining a supply of...

43/5,K/25 (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00502374 **Image available**

SMIF POD DOOR AND PORT DOOR REMOVAL AND RETURN SYSTEM

SYSTEME SMIF PERMETTANT DE DEPLACER ET DE REPLACER LES PORTES DE NACELLE ET LES PORTES D'ACCES DANS UN MICRO-ENVIRONNEMENT

Patent Applicant/Assignee:
ASYST TECHNOLOGIES INC,

Inventor(s):
BONORA Anthony C,
FOSNIGHT William J,
MARTIN Raymond S,

Patent and Priority Information (Country, Number, Date):
Patent: WO 9933726 A1 19990708
Application: WO 98US26517 19981214 (PCT/WO US9826517)
Priority Application: US 97998115 19971224

Designated States: DE JP KR AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

Main International Patent Class: B65G-049/07
International Patent Class: B23P-017/00

Publication Language: English

Fulltext Availability:
Detailed Description
Claims

Fulltext Word Count: 8713

English Abstract

A system for opening and closing the port door (116) from the inside of an I/O mini-environment in a wafer processing system that can also store the door within the mini-environment. The system utilizes various gripping attachment (128) means which can be installed on the back of a robotic end effector (125). The end effector (125) can have various gripping means such as magnetic, vacuum, or electroactuating which cause the door to disengage from its sealing position.

French Abstract

L'invention concerne un systeme permettant, dans un systeme de traitement de plaquettes, d'ouvrir et de fermer la porte d'acces (116) depuis l'interieur d'un micro-environnement d'entree-sortie, et de ranger la porte a l'interieur du micro-environnement. Ce systeme utilise differents accessoires de prehension (128) qui peuvent etre installes sur le dos d'un outil terminal (125) de robot, lequel outil terminal (125) peut comprendre plusieurs moyens de prehension, par exemple magnetiques, aspirants ou electromecaniques, qui permettent de sortir la porte de sa position fermee.

Fulltext Availability:
Detailed Description

Detailed Description

... signals from the computer may also be passed to the port door through either the **robot** or the port plate in alternative embodiments of the invention.

As previously explained, a **power** source may be **located** within the port plate surrounding the I/O port instead of or in addition to the power
from the power couple of the **robot** . In embodiments where the motor is **located** in the port plate, the **power** source for the motor may be located in
the port plate. Similarly, the port plate...

...used to indicate contact of the door
gripping assembly 128 with the port door, which **sensors** cause a **signal** to be **sent** to the computer to turn the current to the electromagnets 131 on or off, and...

43/5,K/26 (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00353947 **Image available**
MOBILE ROBOTIC SYSTEM
SYSTEME ROBOTIQUE MOBILE
Patent Applicant/Assignee:
WATERJET SYSTEMS INC,
Inventor(s):
ROBERTSON David L,
HATHAWAY Daryl K,
BROLLIAR Richard S,
MERRIFIELD Donald V,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9636461 A1 19961121
Application: WO 96US6716 19960510 (PCT/WO US9606716)
Priority Application: US 95433 19950519
Designated States: JP KR SG AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Main International Patent Class: **B25J-005/00**
International Patent Class: B64F-05:00; B44D-03:16
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 4996

English Abstract
A robotic system (10) is provided capable of stripping paint from a large aircraft (12) and including a utility boom (40), a moveable transporter (20) and robotic subsystem (30) having a vertically extending column (50) which interfaces with a horizontally extending arm (70) to deliver high pressure water to the skin of the aircraft.

French Abstract
On decrit un systeme robotique mobile (10) capable d'enlever la peinture de la surface d'un gros avion (12), comprenant un bras d'acheminement polyvalent (40), un transporteur mobile (20) et un sous-systeme robotique (30) dote d'une colonne verticale (50) qui assure l'interface avec un bras horizontal (70) en vue de fournir de l'eau a haute pression sur la surface de l'avion.

Main International Patent Class: **B25J-005/00**
Fulltext Availability:
Detailed Description
Detailed Description
... drive motors.

Referring now to Fig. 4, there is illustrated a left side view of **robot** subsystem 30 showing second side 57b. Side 57b preferably includes an upper access bay 6b...

...contains a process
controller. Access bays 2b and 3b provide access to a chamber containing **robot** controller which is disposed within column 50. Finally, access bay 5b
provides access to a hydraulic unit for nozzle rotation disposed within column 50. The number and **location** of the access bays will vary depending
upon the design of column 50 and the **location** of the various **electrical**
connections and controls within the column.

.Referring now to Fig. 5, there is illustrated a...

43/5,K/27 (Item 9 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00310585 **Image available**

METHOD AND APPARATUS FOR AUTOMATICALLY POSITIONING ELECTRONIC DIE WITHIN COMPONENT PACKAGES

PROCEDE ET DISPOSITIF DE POSITIONNEMENT AUTOMATIQUE DE PUCE ELECTRONIQUE DANS LES BOITIERS DE COMPOSANTS

Patent Applicant/Assignee:
MICRON TECHNOLOGY INC,
Inventor(s):
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FOLARON Jennifer L,
FOLARON Robert J,
HEMBREE David R,
JACOBSON John O,
NELSON Jay C,
WARREN Lelan D,

Patent and Priority Information (Country, Number, Date):
Patent: WO 9528737 A1 19951026
Application: WO 95US4690 19950417 (PCT/WO US9504690)
Priority Application: US 94228809 19940418
Designated States: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TT UA UG UZ VN KE MW SD SZ UG AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Main International Patent Class: H01L-021/00
International Patent Class: H05K-13:08
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 8576

English Abstract
An apparatus for automatically positioning electronic die within temporary packages to enable continuity testing and the like between the die bond pads and the temporary package electrical interconnects is provided. The apparatus includes a robot having a programmable robot arm with a gripper assembly, die and lid feeder stations, a die inverter, and a plurality of cameras or image producers. The cameras take several pictures of the die and temporary packages to precisely align the die bond pads with the temporary package electrical interconnects. A predetermined assembly position is located along a conveyor that conveys a carrier between a first position, corresponding to an inlet, and a second position, corresponding to an outlet. The die, a restraining device and temporary package are assembled at the predetermined assembly position and tested for continuity therebetween. The apparatus further includes a fifth camera which locates the die at a wafer handler. The apparatus has a control mechanism including a microprocessor and associated program routines that selectively control the robot arm (i) to move the gripper assembly to the lid feeder station to pick up a lid, (ii) to move the gripper assembly along with the lid to pick up the die following photographing by the rough die camera, (iii) to move the gripper assembly along with the lid and the die to a position to be photographed by the fine die camera, and (iv) to move the lid and the die to the predetermined assembly position located along the conveyor. The method and apparatus may also be used for disassembly.

French Abstract
La presente invention concerne un dispositif de positionnement automatique de puce electronique dans des boitiers provisoires pour la conduite de tests de continuite et similaires entre les points de connexion de la puce et les contacts electriques du boitier provisoire. Le dispositif comporte notamment un robot portant un bras robot programmable muni d'un ensemble de prehension, des postes d'introduction de puces et de couvercles, un retourneur de puce et une pluralite

d'appareils de prise de vue ou de dispositifs de production d'images. Les appareils de prise de vue prennent plusieurs images de la puce et des boitiers provisoires pour faire coincider exactement les points de connexion de la puce avec les points de contact electrique du boitier provisoire. Une position predeterminee de poste d'assemblage est situee le long d'un convoyeur deplacant un chariot entre un premier poste correspondant a une entree et un second poste correspondant a une sortie. Au niveau du poste d'assemblage, a l'emplacement predetermine se produit l'assemblage de la puce, d'un dispositif de cale et du boitier provisoire qui subissent un test de continuite entre eux. Le dispositif comporte en outre un cinquieme appareil de prise de vue qui localise la puce au niveau du manipulateur de plaquette. L'appareil comporte un controleur reunissant un microprocesseur et les routines logicielles associees assurant la commande selective du bras robot, qui assure les operations suivantes: (i) amener l'organe de prehension au poste d'alimentation en couvercles pour saisir un couvercle, (ii) amener a l'autre poste l'organe de prehension tenant le couvercle pour saisir la puce apres une prise de vue par l'appareil de prise de vue brute des puces, (iii) amener l'organe de prehension tenant le couvercle et la puce a la position de prise de vue des puces par l'appareil de prise de vue detaillee, et (iv) amener le couvercle et la puce a la position predeterminee du poste d'assemblage situee le long du convoyeur. Ce procede et le dispositif conviennent egalement au demontage.
Fulltext Availability:
Detailed Description

Detailed Description
... utilizing robot arm 12% Fine DUT camera 140 is located on the Z- axis of **robot** arm 12 and looks down towards the DUT, Fine DUT camera 140 **determines** the precise **location** of DUT so that the **electrical** interconnects and bond pads of the die can be properly aligned wit h DUT. Fine...

43/5,K/28 (Item 10 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00263680 **Image available**
MOBILE TELEPHONE SYSTEMS AND A METHOD FOR CARRYING OUT FINANCIAL TRANSACTIONS BY MEANS OF A MOBILE TELEPHONE SYSTEM
SYSTEMES TELEPHONIQUES MOBILES ET PROCEDE D'EXECUTION DE TRANSACTIONS FINANCIERES AU MOYEN D'UN SYSTEME TELEPHONIQUE MOBILE
Patent Applicant/Assignee:
VATANEN Harri Tapani,
Inventor(s):
VATANEN Harri Tapani,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9411849 A1 19940526
Application: WO 93FI474 19931111 (PCT/WO FI9300474)
Priority Application: FI 925135 19921111; FI 934995 19931111
Designated States: AT JP LV NO NZ RU US AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Main International Patent Class: G07F-007/08
International Patent Class: H04Q-07:04; H04M-03:42
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 4032

English Abstract
The object of the invention is a system and a method for utilizing card operated mobile stations, especially utilizing the service card of the GSM-network's SIM-card containing the SIM-unit, favorably in different electronic service systems demanding high data protection.

French Abstract

L'invention concerne un systeme et un procede servant a utiliser des stations mobiles fonctionnant avec une carte, particulierement, la carte de service de la carte SIM (SIM = Subscriber Identity Module = module d'identite d'abonne) du reseau GSM contenant l'unite SIM, dans differents systemes de service electronique necessitant une protection elevee des donnees.

Fulltext Availability:
Claims

Claim
... s terminal equipment 1, to which
can be connected the subscriber identification unit 2
containing **data** for subscriber **identification** and radio
traffic secrecy, and which is readable to the terminal
25 equipment for the...the customer's A-number the
account (bank account, credit account, or alike) to be
charged is **searched** from the data base maintained by the
teleoperator or the payment transmitter. After having
approved the transaction, the payment system sends to the...

43/5,K/29 (Item 11 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00238679 **Image available**
AN ELECTRIC BATTERY POWERED HEAVY VEHICLE
VEHICULE LOURD ENTRAINE PAR BATTERIE ELECTRIQUE
Patent Applicant/Assignee:
IAD DESIGN LIMITED,
PENFOLD Terence Raymond,
Inventor(s):
PENFOLD Terence Raymond,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9312945 A1 19930708
Application: WO 92GB2373 19921221 (PCT/WO GB9202373)
Priority Application: GB 9127081 19911220
Designated States: CA US AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
Main International Patent Class: B60K-001/04
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 4337

English Abstract
An electric battery powered bus (10) having a massive replaceable battery (14) as its power plant. The battery (14) is mounted on chassis structure at the rear of the bus (10) which is provided with an opening at the rear through which the battery (14) can be withdrawn for recharging and replaced by a recharged battery (14). A major part of the battery (14) is above the chassis structure on which it is supported and extends laterally to either side so that it occupies a major part of the width of the bus (10). The suspension of the bus (10) is adjustable whereby the chassis structure is lowered on the wheels (12) to lower the battery (14) onto a trolley for withdrawal and a replacement battery installed in its place is raised by raising the chassis structure relative to the wheels (12).

French Abstract
Bus (10) entraine par batterie electrique, ayant une batterie massive (14) remplacable comme generateur de puissance. La batterie (14) est montee sur un chassis a l'arriere du bus (10) qui est equipe avec une ouverture arriere a travers laquelle la batterie (14) peut etre enlevee pour etre rechargee, et remplacee par une batterie rechargee (14). Une partie principale de la batterie (14) est situee au-dessus du chassis sur lequel elle repose et s'etend lateralement de chaque cote de maniere a

occuper la majeure partie de la largeur du bus (10). La suspension du bus (10) est reglable de sorte qu'on puisse descendre le chassis sur les roues (12) pour abaisser la batterie (14) au niveau d'un chariot de maniere a en permettre l'extraction et qu'on puisse soulever une batterie de remplacement installee a sa place en elevant le chassis par rapport aux roues (12).

Fulltext Availability:
Detailed Description

Detailed Description
... downwardly projecting portion
26, and the locking lever 31 is moved automatically into the locking **position** shown in **Figure** 4 by the respective robotic means. Also the electrical connections are made automatically by appropriate **robotic** means. Thus it will be understood that the **battery** assembly 14 is latched and **located** automatically in situation within the structure of the vehicle body 11 and electrically 'connected automatically...

43/5,K/30 (Item 12 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00196036
CHARGING SYSTEM FOR A VEHICLE
SYSTEME DE CHARGE POUR VEHICULE
Patent Applicant/Assignee:
CATERPILLAR INDUSTRIAL INC,
Inventor(s):
MINTUS Robert T,
PAINE John C,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9113389 A1 19910905
Application: WO 90US2704 19900518 (PCT/WO US9002704)
Priority Application: US 901 19900301
Designated States: AT AU BE BR CA CH CH DE DE DK DK ES ES FI FR GB GB HU IT JP KR LU NL NL NO RO SE SE SU
Main International Patent Class: **G05D-001/02**
International Patent Class: H02J-07:00
Publication Language: English
Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 5054

English Abstract
Automated charging systems for vehicles having rechargeable batteries are in common use today. Such systems typically have exposed contacts or the need for additional circuitry to move the contacts. The subject system includes circuitry which allows the charge receiving member (130) to be only connected to the battery (110) during charging. The charging system (100) produces a charging signal in response to a low battery. A microprocessor (240) receives the charging signal and responsively produces a "pulse" signal. A second transistor switch (345) receives the "pulse" signal and responsively energizes a charging contactor coil (305). In response to the charging contactor coil being energized, contacts (200a, 200b, 300a, 300b) controllably block power from the battery (110) to the motor (115) and pass power from the receiving member (130) to the battery (110).

French Abstract
Les systemes de charge automatises pour vehicules ayant des batteries rechargeables sont frequemment utilises aujourd'hui. Ces sytemes se caracterisent par le fait qu'ils ont des contacts a nu ou necessitent des

elements de circuit supplementaires afin de deplacer les contacts. Le present systeme comprend des elements de circuit qui permettent a l'element recevant la charge (130) d'etre uniquemt relie a la batterie pendant la charge. Le systeme de charge (100) produit un signal de charge lorsque le niveau de charge d'une batterie est faible. Un microprocesseur (240) recoit le signal de charge et y repond en produisant un signal "impulsionnel". Un second commutateur a transistors (345) recoit le signal "impulsionel" et en reponse a ce signal, excite un contacteur de charge en forme de bobine (305). En reponse a cette excitation du contacteur de charge, les contacts (200a, 200b, 300a, 300b) bloquent le courant de la batterie (110) au moteur (115) et font passer le courant de l'element recepteur (130) a la batterie (110).

Main International Patent Class: **G05D-001/02**
Fulltext Availability:
Detailed Description

Detailed Description
... need
charging, the robot travels to a charging station.

Then, the charging contacts move to **position** themselves on the conductor bands **located** on the **robot** and **charging** takes place. Another example is U.S. Patent No. 3,1169,733 issued onFebruary 16...

...is that the conductor
bands could be shorted by an object or by metal shavings **found** in industrial areas, causing the **batteries** or the **robot** to be damaged. Some of the problems with George's invention are addressed by Barret's, which moves the contacts normally **located** inside the vehicle to a **position** outside of the vehicle. The disadvantage with Barret's invention is that additional circuitry is needed to provide movement of the contacts. Also,, a **battery charger** is **located** on the vehicle. The **battery charger** along with the motor to move the contacts makes the charging system very bulky and...

...will require many chargers, where the proposed invention only requires a few chargers in opportune **locations** .

The present invention is directed to

43/5,K/31 (Item 13 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT

00147193 **Image available**
NODE MAP SYSTEM AND METHOD FOR VEHICLE
PROCEDE ET SYSTEME CARTOGRAPHIQUES A NOEUD POUR VEHICULE
Patent Applicant/Assignee:
DENNING MOBILE ROBOTICS INC,
Inventor(s):
TAIVALKOSKI Amy L,
KADONOFF Mark B,
Patent and Priority Information (Country, Number, Date):
Patent: WO 8804081 A1 19880602
Application: WO 87US1144 19870514 (PCT/WO US8701144)
Priority Application: US 8692 19861128
Designated States: AT AU BE BR CH DE FR GB IT JP KR LU NL SE
Main International Patent Class: G06F-015/50
International Patent Class: B62D-01:28
Publication Language: English

Fulltext Availability:
Detailed Description
Claims
Fulltext Word Count: 16157
English Abstract
A mapping system (1500) and method which establish a number of navigation nodes and paths among them for a robot in an environment to be navigated by directing the robot to a selected location in the environment, designating that location as a first node, identifying the initial direction of a path to a second node such as by locating a navigation beacon proximate the second node, and moving the robot in the initial direction from the first node while measuring distance travelled along the path to the second node. The mapping system (1500) comprises a directing module (1502), path identification module (1504), robot movement command system (1506), path measuring assembly (1508) and node define system (1512).

French Abstract
Procede et systeme cartographiques (1500) permettant d'etablir plusieurs noeuds de navigation et chemins parmi ces derniers pour un robot dans un environnement de navigation en dirigeant le robot vers un endroit selectionne dans l'environnement, en designant cet endroit comme etant un premier noeud, en identifiant la direction initiale d'un chemin vers un second noeud en placant par exemple une balise de navigation a proximite du second noeud, et en deplacant le robot dans la direction initiale a partir du premier noeud tout en mesurant la distance parcourue le long du chemin vers le second noeud. Le systeme cartographique (1500) comprend un module de direction (1502), un module d'identification de chemins (1504), un systeme de commande des mouvements du robot (1506), une unite de mesure des chemins (1508) et un systeme de definition des noeuds (1512).

Fulltext Availability:
Detailed Description

Detailed Description
... to global zero and to the intended heading,
SUBSTITUTAEt SHEET
The distance travelled along the **path** is **measured** by **path** **measuring** assembly 1508,, Fig, 30., which includes drive encoder 111f Fige 6, When the robot reaches...

...and to halt the robot once it reaches the next node,
In another construction, the **robot** is guided among nodes by navigation beacons. The **robot** emerges from a selected **location** , eg., a **recharge** station, and approaches the beacon until thetaVA matches a selected thetaVE as shown in Fig...

File 256:SoftBase:Reviews,Companies&Prods. 82-2002/Jul
(c)2002 Info.Sources Inc

Set	Items	Description
S1	262	ROBOT? ? OR ROBOTIC OR TOYROBOT? OR ROBOTTOY? OR ROBOTPET? OR PETROBOT? OR ANIMALROBOT? OR ROBOTANIMAL? OR AIBO OR ROBOTDOG? OR DOGROBOT?
S2	11	TELEOPERATOR? OR TELEOPERATER? OR TELE()(OPERATOR? OR OPERATER?) OR MECHATRONIC? OR SERVOMECHANISM? OR SERVO()MECHANISM? OR AUTOMATA OR AUTOMATON?
S3	0	AUTOMATED(1W)MECHANICAL()(DEVICE? OR MANIPULAT? OR APP?? OR APPARATUS? OR INSTRUMENT????? ? OR EQUIPMENT? OR INVENTION? OR UNIT? ? OR ASSEMBL? OR APPLIANCE? OR SYSTEM? ?)
S4	22969	PICKUP OR PICK???()UP OR RECOGNI? OR DETECT? OR FIND? OR FOUND OR READ??? OR DISCRIMINAT? OR IDENTIF? OR SENS??? OR SCAN OR SCANS OR SCANNED OR SCANNING
S5	3064	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(IMAGE? OR INFORMATION OR DATA OR PRINT OR PRINTED OR 3D OR DIMENSION? OR COLOR? OR COLOUR? OR PATTERN?)
S6	236	(S4 OR RECEIV? OR REPOND? OR RESPONSE? OR RECEPT?)(2N)(BARCOD? OR BAR()(CODE? ? OR CODING) OR SIGNAL??? OR UPC OR UPCS OR SKU OR SKUS OR 2D OR STEREOSCOP?)
S7	6	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(STEREOGRA? OR HOLOGRA? OR CUBIC OR VOLUMETRIC OR MULTIDIMENSION?)
S8	16	(S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(UNIVERSAL()PRODUCT OR IDENTIF? OR ID)()(CODE? ? OR CODING)
S9	10609	TRANSMIT? OR TRANSMIS? OR SEND? OR SENT OR RECEIV? OR EMIT? OR EMIS? OR EMANAT?
S10	102	S9(2N)(LIGHT OR PHOTIC? OR INFRARED? OR RADIA????? OR SOUND? ? OR SOUNDWAVE? OR AUDIO OR AUDIOWAVE? OR RADIOWAVE? OR MAGNETICWAVE? OR MAGNETIC)
S11	3	S10(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENSITIV? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL??? OR WAVE? ? OR SONIC? ?)
S12	16204	RANGE? OR BEAR??? OR DISTAN? OR DIRECTION? OR LOCAT? OR SITUAT?? OR PLACEMENT? OR EMPLAC? OR POSITION? ? OR VECTOR? OR PLACED OR PATH OR COURSE
S13	13972	NAVIGAT? OR HEADING OR ORIENTATION OR ROUTE? OR ROUTING OR WAY
S14	1022	S12-S13(3N)(CALCULAT? OR MEASUR? OR COMPUT? OR GAUG? OR ASSESS? OR ANALYS? OR ANALYT? OR ANALYZ? OR DETERMIN? OR DET? ? OR QUANTIF? OR DERIV?)
S15	152	S12:S13(3N)(MENSUR? OR EVALUAT? OR FIGUR??? OR TABULAT? OR CALIBRAT? OR ESTIMAT? OR APPROXIMAT?)
S16	25	S1:S3 AND S5:S8
S17	9	S1:S3 AND S14:S15
S18	94	S9(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENS? OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL???? OR WAVE? ? OR SONIC? ?)
S19	2	S1:S3 AND (S10 OR S18)
S20	8138	REGENERAT? OR REENERGI? OR RECHARG? OR BATTERY? OR BATTERIES OR CHARGE? ? OR CHARGING OR POWER OR ENERGY OR ELECTRICITY OR ELECTRICAL
S21	5	(FUEL OR ELECTROCHEMICAL)()CELL? ?
S22	4	(S16:S17 OR S19) AND S20:S21

?t22/7/all

22/7/1
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

00123914 DOCUMENT TYPE: Review

PRODUCT NAMES: Portals (840564)

TITLE: Gathering, organizing, distributing information
AUTHOR: McKinley, Tony

SOURCE: KM World, v9 n3 p10(1) Apr 2000
ISSN: 1060-894X
HOMEPAGE: http://www.KMonline.com

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

Web portals used by corporations are briefly described, including AlphaBlox, Autonomy Portal-in-a-Box, Cognos Upfront, Cypress Web, Datawatch Monarch/ES Report Portal, EnCommerce getAccess, Enigma CommerceSight, Experts Exchange, Hyperwave Information Portal, Icarian Workforce eServices, InfoImage Freedom, Inovie TeamCenter, OnDemand, PM Boulevard, and Sagewave EIP Browser. Web portals use agents and **robots** to collect and aggregate information from many sources, lower the amount of work required to **find information** on large networks, and provide mass customization. AlphaBox provides Web-enabled analytical applications and appeals to statistical analysts. Portal-in-a-Box has an inventive information retrieval technology that monitors multiple information feeds and allows ad hoc categorization, profiling, and hyperlink creation from within new documents. Cypress Web provides secure document management, while EnCommerce getAccess offers the financial framework of the industry and is used by Chase, Prudential, Bank of America, AT&T, and other e-commerce leaders. Experts Exchange provides over 2 million postings from 50,000 experts and 300,000 knowledgeable **power** users, while InfoImage Freedom provides online education resources, Inovie TeamCenter offers 24x7 collaboration features, and PM Boulevard provides a dependable, huge, diverse project management backbone for Northrop Grumman B-2 division. SageWave EIP Browser integrates more than 4,000 external industry-specific information resources with existing corporate systems.

REVISION DATE: 20010430

22/7/2
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

00118191 DOCUMENT TYPE: Review

PRODUCT NAMES: Mindstorm Robotic **Invention System (753378**

TITLE: Lego of My Robot
AUTHOR: Erickson, Jonathan
SOURCE: Dr Dobb's Journal, v24 n4 p8(1) Apr 1999
ISSN: 1044-789X
HOMEPAGE: http://www.ddj.com

RECORD TYPE: Review
REVIEW TYPE: Review
GRADE: A

LEGO's/MIT's (Massachusetts Institute of Technology's) Mindstorm **Robotic** Invention System (LEGO/Mindstorm) is a hardware/software combo that includes over 700 LEGO pieces, light and touch sensors, a programmable embedded computer, **infrared transmitter** , software, and a large quantity of motors, gears, and wheels. With LEGO/Mindstorm, users can design, build, and program mobile **robots** using LEGO pieces. The core of the system is a 16MHz Hitachi H8/3292 microcontroller with an 8-channel 1-bit A/D converter, serial communications interface, timers, and multiple I/O ports. The RCX (**Robotic** Command Explorer) computer is powered by AA- **batteries** , and has 16KB ROM, 32KB RAM, and ships in a LEGO-ready case to which users can attach standard and nonstandard LEGO bricks and beams. The RCX is about the size of a calculator, and stores multiple programs that can be chosen and executed through a small keypad and LCD. Software development is done in a host/target environment. The user programs on a Windows 95 PC and downloads programs to the RCX through an **infrared transmitter** attached to a PC serial port. Programs are written in the RCX Code visual

environment, which uses the LOGO programming language. LEGO also sells an SDK that allows the user to program the RCX using such tools as Visual Basic. Many supporting freeware and shareware programs are now available, including RCX Command Center and RCX Creator.

REVISION DATE: 19991030

22/7/3
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

00106457 DOCUMENT TYPE: Review

PRODUCT NAMES: EMC Scan (691011); Quiet (492094); Comoran (691038); EDAnavigator 2.0 (521248)

TITLE: New Simulation Tools Help PC Boards Meet EMC Requirement
AUTHOR: Vollmer, Alfred
SOURCE: Electronic Design, v45 n22 p93(4) Oct 13, 1997
ISSN: 0013-4872
HOMEPAGE: http://www.elecdesign.com

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

Quantic-EMC's EMC Scan, Quad Design's now Viewlogic's Quiet, Xynetix Design Systems' EDAnavigator 2.0, and Incases Engineering's Comoran are products highlighted in a discussion of new simulation tools that assist pc-board designers in meeting the requirements of the European CE Mark, a standard that engineers must satisfy in order to export products to multiple European countries. For instance, the CE Mark needs particular data as regards electromagnetic compatibility (EMC). To speed time to market, while concurrently meeting CE's strict EMC directives, the corporate technology department of Siemens AG tried an EMC simulation tool that permits integration of EMC simulation into the virtual prototyping process through the use of CAD- **mechatronics** . EMC simulation saves time and money and occurs after pc-board layout, when layout data is transferred to the EMC simulator. Siemens can simulate electromagnetic radiation by measuring current, and by using the fact that magnetic flux density is directly proportional to the current in a wire. The Siemens team has been working on EMC simulation and has evaluated the tools mentioned. Quantic's and Incases' solutions better meet Siemens' needs; EMC Scan was chosen. Siemens also added functions to change the early beta release of the software. Topics covered include the design environment, and use of EDAnavigator to support pre- **route analysis** .

REVISION DATE: 20020618

22/7/4
DIALOG(R)File 256:SoftBase:Reviews,Companies&Prods.

00071820 DOCUMENT TYPE: Review

PRODUCT NAMES: Models (830371)

TITLE: The Application of Octree Technology in an Environmental Cleanup...
AUTHOR: Holton, W Conrad
SOURCE: Scientific Computing & Automation, v11 n12 p29(4) Nov 1994
ISSN: 0891-9003

RECORD TYPE: Review
REVIEW TYPE: Product Analysis
GRADE: Product Analysis, No Rating

A three-dimensional model with all of the characteristics of a hazardous site would improve the efficiency of a **robotic** system tremendously. Recently, solids modeling programs and the computers they require have become more affordable. Using octree technology, a form of solids modeling, and a low-cost workstation, one laboratory has created a volumetric data system that can fuse **data** from multiple **sensors** into a spatially organized model of a site. Octree technology uses a combination of cubes to approximate a solid shape. The drawback to octree is that it requires a large number of small cubes for curved shapes. However, with higher computer **power** , this is less of a burden. This technology has been applied to areas such as designing hip implants, and analyzing CAT and MRI data. Because it is flexible and efficient, it can lend itself to environmental remediation work as well. Users can also refine the data throughout the lifetime of the remediation project.

REVISION DATE: 19950330
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Set     Items   Description
S1        262   ROBOT? ? OR ROBOTIC OR TOYROBOT? OR ROBOTTOY? OR ROBOTPET?
          OR PETROBOT? OR ANIMALROBOT? OR ROBOTANIMAL? OR AIBO OR ROBOT-
          DOG? OR DOGROBOT?
S2         11   TELEOPERATOR? OR TELEOPERATER? OR TELE()(OPERATOR? OR OPER-
          ATER?) OR MECHATRONIC? OR SERVOMECHANISM? OR SERVO()MECHANISM?
           OR AUTOMATA OR AUTOMATON?
S3          0   AUTOMATED(1W)MECHANICAL()(DEVICE? OR MANIPULAT? OR APP?? OR
           APPARATUS? OR INSTRUMENT????? ? OR EQUIPMENT? OR INVENTION? -
          OR UNIT? ? OR ASSEMBL? OR APPLIANCE? OR SYSTEM? ?)
S4      22969   PICKUP OR PICK???()UP OR RECOGNI? OR DETECT? OR FIND? OR F-
          OUND OR READ??? OR DISCRIMINAT? OR IDENTIF? OR SENS??? OR SCAN
           OR SCANS OR SCANNED OR SCANNING
S5       3064   (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(IM-
          AGE? OR INFORMATION OR DATA OR PRINT OR PRINTED OR 3D OR DIME-
          NSION? OR COLOR? OR COLOUR? OR PATTERN?)
S6        236   (S4 OR RECEIV? OR REPOND? OR RESPONSE? OR RECEPT?)(2N)(BAR-
          COD? OR BAR()(CODE? ? OR CODING) OR SIGNAL??? OR UPC OR UPCS -
          OR SKU OR SKUS OR 2D OR STEREOSCOP?)
S7          6   (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(ST-
          EREOGRA? OR HOLOGRA? OR CUBIC OR VOLUMETRIC OR MULTIDIMENSION-
          ?)
S8         16   (S4 OR RECEIV? OR RESPOND? OR RESPONSE? OR RECEPT?)(2N)(UN-
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S9      10609   TRANSMIT? OR TRANSMIS? OR SEND? OR SENT OR RECEIV? OR EMIT?
           OR EMIS? OR EMANAT?
S10       102   S9(2N)(LIGHT OR PHOTIC? OR INFRARED? OR RADIA????? OR SOUN-
          D? ? OR SOUNDWAVE? OR AUDIO OR AUDIOWAVE? OR RADIOWAVE? OR MA-
          GNETICWAVE? OR MAGNETIC)
S11         3   S10(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENSITIV?
          OR ULTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL?-
          ???  OR WAVE? ? OR SONIC? ?)
S12     16204   RANGE? OR BEAR??? OR DISTAN? OR DIRECTION? OR LOCAT? OR SI-
          TUAT?? OR PLACEMENT? OR EMPLAC? OR POSITION? ? OR VECTOR? OR -
          PLACED OR PATH OR COURSE
S13     13972   NAVIGAT? OR HEADING OR ORIENTATION OR ROUTE? OR ROUTING OR
          WAY
S14      1022   S12-S13(3N)(CALCULAT? OR MEASUR? OR COMPUT? OR GAUG? OR AS-
          SESS? OR ANALYS? OR ANALYT? OR ANALYZ? OR DETERMIN? OR DET? ?
          OR QUANTIF? OR DERIV?)
S15       152   S12:S13(3N)(MENSUR? OR EVALUAT? OR FIGUR??? OR TABULAT? OR
          CALIBRAT? OR ESTIMAT? OR APPROXIMAT?)
S16        25   S1:S3 AND S5:S8
S17         9   S1:S3 AND S14:S15
S18        94   S9(2N)(PHOTOACOUSTIC? OR PHOTORADIA???? OR PHOTOSENS? OR U-
          LTRASONIC? OR RAY? ? OR BEAM? ? OR ACOUSTIC? ? OR SIGNAL???? -
          OR WAVE? ? OR SONIC? ?)
S19         2   S1:S3 AND (S10 OR S18)
S20      8138   REGENERAT? OR REENERGI? OR RECHARG? OR BATTERY? OR BATTERI-
           ES OR CHARGE? ? OR CHARGING OR POWER OR ENERGY OR ELECTRICITY
           OR ELECTRICAL
S21         5   (FUEL OR ELECTROCHEMICAL)()CELL? ?
S22         4   (S16:S17 OR S19) AND S20:S21
S23         9   S1:S3 AND S14:S15
S24         1   S23 AND S20:S21
S25         0   S24 NOT S22
?
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File 347:JAPIO Oct 1976-2002/Mar(Updated 020702)
(c) 2002 JPO & JAPIO
File 350:Derwent WPIX 1963-2002/UD,UM &UP=200247
(c) 2002 Thomson Derwent

Set	Items	Description
S1	103	AU='OSAWA H'
S2	551	AU='OSAWA HIROSHI'
S3	10	AU='HOSONUMA N'
S4	36	AU='HOSONUMA NAOYASU'
S5	1	S1:S2 AND S3:S4
S6	112141	ROBOT? OR TOY? ?
S7	16	S1:S4 AND S6
S8	16	S5 OR S7

?t8/9/1-14

Applicant

8/9/1 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
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06963716 **Image available**
ROBOT DEVICE AND ITS CONTROLLING METHOD

PUB. NO.: 2001-191283 [JP 2001191283 A]
PUBLISHED: July 17, 2001 (20010717)
INVENTOR(s): **HOSONUMA NAOYASU**
FUKUSHIMA NORIYUKI
OYAMA KAZUFUMI
APPLICANT(s): SONY CORP
APPL. NO.: 11-377347 [JP 99377347]
FILED: December 31, 1999 (19991231)
INTL CLASS: B25J-013/00; A63H-011/00; B25J-005/00; B25J-019/00; H04L-029/06

ABSTRACT

PROBLEM TO BE SOLVED: To realize a **robot** device and its controlling method capable of greatly improving its amusement property.

SOLUTION: In the **robot** device and its controlling method, predetermined information is transmitted to a selected sending destination after the sending destination is selected, so that an informing probability can be increased more because of selectivity of the sending destination. After information about the ambience or an internal state is obtained, the obtained information is transmitted to a predetermined sending destination, so that communication can be achieved even when the sending destination is not in a close range.

8/9/2 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2002 JPO & JAPIO. All rts. reserv.

06963706 **Image available**
ROBOT DEVICE AND ITS BEHAVIOR CONTROLLING METHOD

PUB. NO.: 2001-191273 [JP 2001191273 A]
PUBLISHED: July 17, 2001 (20010717)
INVENTOR(s): **OSAWA HIROSHI**
APPLICANT(s): SONY CORP
APPL. NO.: 11-377256 [JP 99377256]
FILED: December 29, 1999 (19991229)
INTL CLASS: B25J-005/00; A63H-011/00; A63H-013/02; B25J-013/00

ABSTRACT

PROBLEM TO BE SOLVED: To improve an entertainment property of a **robot** device in comparison with a conventional one.

SOLUTION: A gender parameter representing one of a plurality kinds of gender is stored in a storage means 16, and on the basis of this gender parameter, behavior specific to the gender represented by the gender parameter can be performed. In this way, biological behavior can be carried out, so that the **robot** device 1 improving an entertainment property in comparison with a conventional one can be provided.

8/9/3 (Item 3 from file: 347)
DIALOG(R)File 347:JAPIO

06898131 **Image available**
CHARGING SYSTEM FOR MOVING **ROBOT** , METHOD FOR SEARCHING FOR CHARGING STATION, MOVING **ROBOT** , CONNECTOR, AND ELECTRIC CONNECTION STRUCTURE

PUB. NO.: 2001-125641 [JP 2001125641 A]
PUBLISHED: May 11, 2001 (20010511)
INVENTOR(s): **OSAWA HIROSHI**
HOSONUMA NAOYASU
APPLICANT(s): SONY CORP
APPL. NO.: 11-308224 [JP 99308224]
FILED: October 29, 1999 (19991029)
INTL CLASS: G05D-001/02; B25J-005/00; B25J-013/08

ABSTRACT
PROBLEM TO BE SOLVED: To charge a moving **robot** , which is driven by a battery and freely moves in a work space without specifying its path, at a charging station.

SOLUTION: This system is provided with visual identification data which are arranged at a specific position of a charging station, an image pickup means which is mounted on a moving **robot** , an arithmetic means which calculates the distance and direction from the moving **robot** to the charging station according to a picked-up image, and a search means which makes the moving **robot** search for the charging station according to the calculation result of the arithmetic means. The moving **robot** is able to search for the charging station by tracing the visual identification data through a camera, so charging operation can be automated.

8/9/4 (Item 4 from file: 347)
DIALOG(R)File 347:JAPIO

06893946 **Image available**
CHARGE SYSTEM OF AND CHARGE CONTROL METHOD FOR MOBILE **ROBOT** , CHARGE STATION, MOBILE **ROBOT** AND ITS CONTROL METHOD

PUB. NO.: 2001-121455 [JP 2001121455 A]
PUBLISHED: May 08, 2001 (20010508)
INVENTOR(s): **HOSONUMA NAOYASU**
INOUE MAKOTO
APPLICANT(s): SONY CORP
APPL. NO.: 11-308148 [JP 99308148]
FILED: October 29, 1999 (19991029)
INTL CLASS: B25J-005/00; A63H-003/33; A63H-011/00; A63H-013/02; A63H-029/22; B25J-013/00; B25J-019/00; H01M-010/42; H02J-007/10

ABSTRACT
PROBLEM TO BE SOLVED: To perform a charge by a charge station a mobile **robot** driven by a battery to freely move by no route in a work space.

SOLUTION: Whether a battery must be charged or not realistically is judged by applying a charge rule to the latest charge log of a mobile **robot** . The charge log includes recording of a number of charge times, charge frequency, and a supply amount of current, the charge rule regulates suitableness of a charge in accordance with a content of the charge log. A metaphor like giving food, waiting for, etc., can be given relating to charge operation by suitably preparing the charge rule. Or the metaphor can be practically used as the penalty like [one time rest], [leaving], etc., in the case, for instance, 1 or more mobile **robots** 1 play a game cooperatively.

8/9/5 (Item 5 from file: 347)

06652165 **Image available**
ARTICULATE MECHANISM AND **ROBOT**

PUB. NO.: 2000-237985 [JP 2000237985 A]
PUBLISHED: September 05, 2000 (20000905)
INVENTOR(s): **OSAWA HIROSHI**
APPLICANT(s): SONY CORP
APPL. NO.: 11-040967 [JP 9940967]
FILED: February 19, 1999 (19990219)
INTL CLASS: B25J-017/00; B25J-005/00; F16H-001/02

ABSTRACT

PROBLEM TO BE SOLVED: To provide a compact articulate mechanism of a **robot** for walking capable of remarkably enlarging a movable range.

SOLUTION: This articulate mechanism 21 incorporated in the leg part of a **robot** for walking is composed of an articulate upstream member 22, an articulate downstream member 23 and an articulate intermediate member 24 provided therebetween, and in driving the articulate intermediate member 24 in rotation about a first fulcrum shaft 25 in respect to the articulate upstream member 22 by a single motor 27, the articulate downstream member 23 is driven in rotation in the same direction about a second fulcrum shaft 26 in respect to the articulate intermediate member 24.

8/9/6 (Item 6 from file: 347)

06652159 **Image available**
WALKING **ROBOT**

PUB. NO.: 2000-237979 [JP 2000237979 A]
PUBLISHED: September 05, 2000 (20000905)
INVENTOR(s): **OSAWA HIROSHI**
APPLICANT(s): SONY CORP
APPL. NO.: 11-040968 [JP 9940968]
FILED: February 19, 1999 (19990219)
INTL CLASS: B25J-005/00

ABSTRACT

PROBLEM TO BE SOLVED: To provide a walking **robot** capable of easily getting up by itself even if it is fallen down while turning on the back by providing a means for changing posture of a barrel part from the turn-on-the-back condition to the turn-on-the-side condition at the time of fall-down in a walking **robot** provided with at least a head part, a barrel part and a leg part.

SOLUTION: A **robot** 1 is formed into the two-leg walking type structure, and provided with a posture changing means 21 for changing posture of a barrel part 3 from the turn-on-the-back condition to the turn-on-the-side condition. Namely, roundness 22 such as a primary curved surface and polygonal surface is formed over from a back part 3a of the barrel part 3 to a right and a left side parts 3b. When the **robot** 1 is fallen down and the back part 3a of the barrel part 3 is grounded on a floor surface, the barrel part 3 is naturally turned in any one direction a1 of right and left or in the opposite direction by the roundness 22 and the polygonal surface so that the barrel part 3 is automatically changed from the turn-on-the-back posture to the turn-on-the-side posture. Thereafter, each two leg 4 and each arm 5 is operated so as to get up by itself in the fore and aft direction (c).

8/9/7 (Item 7 from file: 347)

06625073 **Image available**
ROBOT DEVICE

PUB. NO.: 2000-210886 [JP 2000210886 A]
PUBLISHED: August 02, 2000 (20000802)
INVENTOR(s): INOUE MAKOTO
HOSONUMA NAOYASU
FURUMURA KYOKO
SABE KOTARO
APPLICANT(s): SONY CORP
APPL. NO.: 11-015762 [JP 9915762]
FILED: January 25, 1999 (19990125)
INTL CLASS: B25J-009/22; B25J-013/00

ABSTRACT

PROBLEM TO BE SOLVED: To improve the convenience in use by providing a control means for storing the control data used in a fixed storage means or a removable storage means corresponding to the kind of the data, or reading the data from the fixed storage means or the removable storage means according to the kind of the data.
SOLUTION: This **robot** device is provided with an internal memory 23 fixed inside of a moving body, and an external memory 24 removably mounted on a tail part of the moving body, and the internal memory 23 and the external memory 24 are selectively used through a controller 20 corresponding to the kind and contents of the control data. The data used for predetermined motion corresponding to the external input is read out through a main storage part 22 from the internal memory 22 or the external memory 24. The controller 20 writes the data of a result of motion obtained as a result of the predetermined motion in the memory 22 or 24 on the basis of the data read out from the control program and the internal memory 22 or the external memory 24.

8/9/8 (Item 8 from file: 347)

06149326 **Image available**
EDITING METHOD FOR OPERATING PATTERN FOR MULTIPED WALKING BODY

PUB. NO.: 11-090866 [JP 11090866 A]
PUBLISHED: April 06, 1999 (19990406)
INVENTOR(s): FUJITA MASAHIRO
SAKAMOTO TAKAYUKI
HANAGATA OSAMU

OSAWA HIROSHI

APPLICANT(s): SONY CORP
APPL. NO.: 09-248670 [JP 97248670]
FILED: September 12, 1997 (19970912)
INTL CLASS: B25J-005/00; B62D-057/032

ABSTRACT

PROBLEM TO BE SOLVED: To provide an editing method of an operating pattern of a multiped walking **robot** whereby in the case of giving its operating pattern, the **robot** can be prevented from tumbling.

SOLUTION: Relating to a main unit 2, a plurality of feet are provided, and the foot has an articulation relating to a multiped walking body 1 able to walk. In a method editing an operating pattern for editing it, one foot of a plurality of the feet is selected. In the case of defining movement of an articulation of the selected foot, in order to move a position of the center of gravity of the multiped walking body 1, movement of the articulation is defined in cooperation with also at least one foot of the rest of feet.

8/9/9 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX

014541960 **Image available**
WPI Acc No: 2002-362663/200239
XRPX Acc No: N02-283414
Robot **control system that uses semantic motion and a pre-stored database for movement control**
Patent Assignee: SONY CORP (SONY)
Inventor: FUJITA M; **HOSONUMA N** ; INOUE M; SAKAMOTO T; TAKAGI T
Number of Countries: 020 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200230626	A1	20020418	WO 2001JP8846	A	20011009	200239	B

Priority Applications (No Type Date): JP 2000310033 A 20001011
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200230626	A1	J	68	B25J-005/00	

Designated States (National): US
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR

Abstract (Basic): WO 200230626 A1

NOVELTY - An articulated **robot** is controlled by dynamically changing the combination of a hardware-dependent middleware layer and a hardware-independent application layer. An interface for semantic motion and a database are provided between the middleware layer dependent on the hardware structure of a **robot** and the application layer independent on the hardware structure. As a result, even if the combination of the middleware introduced in the **robot** and the application, an always-normal motion is secured. The application can acquire appropriate input data through the middleware and issue a proper command.

USE - **Robot** control system that uses semantic motion and a pre-stored database for movement control

pp; 68 DwgNo 7/36

Title Terms: **ROBOT** ; CONTROL; SYSTEM; MOTION; PRE; STORAGE; DATABASE; MOVEMENT; CONTROL
Derwent Class: P62; T01; T06; X25
International Patent Class (Main): B25J-005/00
International Patent Class (Additional): B25J-013/08
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): T01-J07; T06-D07B; X25-A03E

8/9/10 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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014016380 **Image available**
WPI Acc No: 2001-500594/200155
XRPX Acc No: N01-371192
Robotic **device for pet simulation, transmits predetermined information to destination selected by selector**
Patent Assignee: SONY CORP (SONY); FUKUSHIMA N (FUKU-I); HOSONUMA N (HOSO-I); OYAMA K (OYAM-I)
Inventor: FUKUSHIMA N; **HOSONUMA N** ; OYAMA K
Number of Countries: 002 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
JP 2001191283	A	20010717	JP 99377347	A	19991231	200155	B
US 20010021882	A1	20010913	US 2000750994	A	20001229	200155	

Priority Applications (No Type Date): JP 99377347 A 19991231
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
JP 2001191283	A		21	B25J-013/00	
US 20010021882	A1			G06F-019/00	

Abstract (Basic): JP 2001191283 A
NOVELTY - A selector is provided for selecting a destination for transmission of information. A transmitter transmits predetermined information to the selected destination.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for **robotic** device control method.
USE - For pet simulation.
ADVANTAGE - Achieves correct communication and improves amusement property by providing suitable transmitter.
DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of communication unit of **robotic** device. (Drawing includes non-English language text).
pp; 21 DwgNo 3/22
Title Terms: **ROBOT** ; DEVICE; PET; SIMULATE; TRANSMIT; PREDETERMINED; INFORMATION; DESTINATION; SELECT; SELECT
Derwent Class: P36; P62; W01
International Patent Class (Main): B25J-013/00; G06F-019/00
International Patent Class (Additional): A63H-011/00; B25J-005/00; B25J-019/00; H04L-029/06
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): W01-A07G

8/9/11 (Item 3 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2002 Thomson Derwent. All rts. reserv.

013540631 **Image available**
WPI Acc No: 2001-024837/200103
XRPX Acc No: N01-019373
Control apparatus for toy robot **, judges whether object fulfills predetermined condition and instructs** robot **to make predetermined motion**
Patent Assignee: OSAWA H (OSAW-I); SONY CORP (SONY)
Inventor: **OSAWA H**
Number of Countries: 002 Number of Patents: 003
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200067959	A1	20001116	WO 2000JP2987	A	20000510	200103	B
US 20020049515	A1	20020425	US 2001743301	A	20010409	200233	
			US 200124952	A	20011219		
US 20020052672	A1	20020502	WO 2000JP2987	A	20000510	200234	

US 2001743301 A 20010409
US 200124795 A 20011219

Priority Applications (No Type Date): JP 99129307 A 19990510
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
WO 200067959 A1 J 42 B25J-013/00
Designated States (National): JP US
US 20020049515 A1 G06F-019/00 Cont of application US 2001743301
US 20020052672 A1 G06F-019/00 Div ex application WO 2000JP2987
Div ex application US 2001743301

Abstract (Basic): WO 200067959 A1
NOVELTY - A **robot** device is provided in which information is captured from external unit, and a specific object is detected by using the information. Whether or not the object, if detected, fulfills a predetermined condition is judged, and the **robot** device is instructed to make a predetermined motion according to the result of the judgement.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a method for controlling the **toy** **robot** .
USE - For **toy** **robot** .
ADVANTAGE - The **robot** can make a biologically natural motion, enhancing the amusement.
DESCRIPTION OF DRAWING(S) - The figure shows a flow diagram of the control apparatus.
recognize image (SP2)
Q - face pattern registered (SP3)
create new table (SP4)
read corresponding table (SP5)
anything done to **robot** device (SP6)
Q - good feeling imparted (SP7)
increase degree of good feeling in table (SP8)
decrease degree of good feeling in table (SP9)
pp; 42 DwgNo 7/12
Title Terms: CONTROL; APPARATUS; **TOY** ; **ROBOT** ; JUDGEMENT; OBJECT; PREDETERMINED; CONDITION; **ROBOT** ; PREDETERMINED; MOTION
Derwent Class: P62; T01
International Patent Class (Main): B25J-013/00; G06F-019/00
International Patent Class (Additional): B25J-005/00
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): T01-F06; T01-J08A; T01-J16C; T01-P02

8/9/12 (Item 4 from file: 350)
DIALOG(R)File 350:Derwent WPIX

013540544 **Image available**
WPI Acc No: 2001-024750/200103
XRPX Acc No: N01-019329
Electronic pet system, network system, robot **, and storage medium**
Patent Assignee: SONY CORP (SONY)
Inventor: FUJITA M; HATTORI M; **HOSONUMA N** ; KATO Y; YOKOO N
Number of Countries: 023 Number of Patents: 004
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200066239	A1	20001109	WO 2000JP2856	A	20000428	200103	B
EP 1092458	A1	20010418	EP 2000922918	A	20000428	200123	
			WO 2000JP2856	A	20000428		
KR 2001053322	A	20010625	KR 2000715057	A	20001229	200173	
CN 1313781	A	20010919	CN 2000801112	A	20000428	200202	

Priority Applications (No Type Date): JP 99129207 A 19990510; JP 99125191 A 19990430
Patent Details:
Patent No Kind Lan Pg Main IPC Filing Notes
WO 200066239 A1 J 145 A63H-011/00

Designated States (National): CN JP KR US
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
EP 1092458 A1 E A63H-011/00 Based on patent WO 200066239
Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
KR 2001053322 A G06F-019/00
CN 1313781 A A63H-011/00

Abstract (Basic): WO 200066239 A1

NOVELTY - Virtual electronic pet (202) and pet **robot** (204) change emotion and instinctive internal states. Information is included in pet feature information (203) about surroundings and behavior according to emotion and instinctive state. Internal states, pet feature information (203), are transmitted and received between virtual electronic pet, pet **robot** , or personal computer (201).

USE - Electronic pet system, network system, **robot** , and storage medium.

DESCRIPTION OF DRAWING(S) - personal computer. (201)
virtual electronic pet (202)
pet feature information (203)
pet **robot** (204)
pp; 145 DwgNo 2/48

Title Terms: ELECTRONIC; PET; SYSTEM; NETWORK; SYSTEM; **ROBOT** ; STORAGE; MEDIUM
Derwent Class: P36; T01; W04
International Patent Class (Main): A63H-011/00; G06F-019/00
International Patent Class (Additional): A63F-013/00; G06F-017/00; G06K-017/00
File Segment: EPI; EngPI
Manual Codes (EPI/S-X): T01-H07C5; T01-P02; W04-X03E5

8/9/13 (Item 5 from file: 350)
DIALOG(R)File 350:Derwent WPIX
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013422039 **Image available**
WPI Acc No: 2000-593978/200056
XRPX Acc No: N00-439923

Autonomous robot **for operating movable parts, comprises control unit for writing control data to and reading control data from fixed storage device and detachable storage device**

Patent Assignee: SONY CORP (SONY)
Inventor: FURUMURA K; **HOSONUMA N** ; INOUE M; SABE K
Number of Countries: 006 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200043168	A1	20000727	WO 2000JP342	A	20000125	200056	B
JP 2000210886	A	20000802	JP 9915762	A	19990125	200056	
CN 1293606	A	20010502	CN 2000800064	A	20000125	200143	
EP 1120205	A1	20010801	EP 2000900911	A	20000125	200144	
			WO 2000JP342	A	20000125		
US 6381515	B1	20020430	WO 2000JP342	A	20000125	200235	
			US 2000646723	A	20000921		

Priority Applications (No Type Date): JP 9915762 A 19990125
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200043168	A1	J	37	B25J-013/00	
Designated States (National): CN US					
Designated States (Regional): DE FR GB					
JP 2000210886	A		12	B25J-009/22	
CN 1293606	A			B25J-013/00	
EP 1120205	A1	E		B25J-013/00	Based on patent WO 200043168
Designated States (Regional): DE FR GB					
US 6381515	B1			G06F-019/00	Based on patent WO 200043168

Abstract (Basic): WO 200043168 A1

NOVELTY - An autonomous **robot** comprises fixed storage device in a predetermined position of the **robot** , and detachable storage device in a predetermined position of the **robot** . A control unit writes control data used to operate the control program into the fixed storage device or the detachable storage device and reads such control data from the fixed storage device or the detachable storage device in accordance with the type of control data.

USE - As autonomous **robot** for operating movable parts.

ADVANTAGE - Is capable of operating movable parts based on predetermined control program.

DESCRIPTION OF DRAWING(S) - The figure shows a block diagram of control unit for **robot** .

pp; 37 DwgNo 1/8

Title Terms: AUTONOMOUS; **ROBOT** ; OPERATE; MOVE; PART; COMPRISE; CONTROL; UNIT; WRITING; CONTROL; DATA; READ; CONTROL; DATA; FIX; STORAGE; DEVICE; DETACH; STORAGE; DEVICE

Derwent Class: P62; T06; X25

International Patent Class (Main): B25J-009/22; B25J-013/00; G06F-019/00

International Patent Class (Additional): B25J-005/00

File Segment: EPI; EngPI

Manual Codes (EPI/S-X): T06-D08F; X25-F05A

8/9/14 (Item 6 from file: 350)

012868502 **Image available**

WPI Acc No: 2000-040335/200004

XRAM Acc No: C00-010718

XRPX Acc No: N00-030503

Robotic **manipulator arm and control system, for loading/removal of containerized samples, e.g. blood, to and from an automatic laboratory centrifuge**

Patent Assignee: HITACHI KOKI KK (HITO); HAYASAKA H (HAYA-I); HOSHIBA H (HOSH-I); INANIWA M (INAN-I); OSAWA H (OSAW-I)

Inventor: HAYASAKA H; HOSHIBA H; INANIWA M; **OSAWA H**

Number of Countries: 003 Number of Patents: 005

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
DE 19912496	A1	19990923	DE 1012496	A	19990319	200004	B
JP 11262688	A	19990928	JP 9870607	A	19980319	200004	
JP 11262881	A	19990928	JP 9870594	A	19980319	200004	
US 6196961	B1	20010306	US 99266605	A	19990311	200115	
US 20010000353	A1	20010419	US 99266605	A	19990311	200123	
			US 2000726438	A	20001201		

Priority Applications (No Type Date): JP 9870607 A 19980319; JP 9870594 A 19980319

Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
DE 19912496	A1		33	B04B-005/04	
JP 11262688	A		8	B04B-013/00	
JP 11262881	A		14	B25J-009/10	
US 6196961	B1			B04B-005/02	
US 20010000353	A1			G05B-019/18	Div ex application US 99266605 Div ex patent US 6196961

Abstract (Basic): DE 19912496 A1

NOVELTY - A compound arm has a pair of sliders (7,8) respectively moveable along parallel guide elements (5,6) and rotatably carrying arms (13,14), a push rod (16) connected to the ends of the arms (13,14) remote from the sliders, and a work handling tool (15). The push rod (16) movement has a locus which is a line perpendicular to the slider directions and defined by the expression

Bx=X1 - square root of (L22 - (L1sin (cos-1(x1-Ax/L1) + d)2)

where : L1 , L2=lengths of arms (13,14) d=separation of arm

rotation axes at sliders (7,8) Ax , Bx=position of sliders on guides (5,6) x1=position of push rod. The control sequence for the push rod computes target velocity curves (42,43) for the sliders (7,8) based on the target, or setpoint velocity curve (41) of the push rod (16). The angular position of the push rod element (16) is determined by means of at least one goniometer (24) mounted on one of the sliders (7,8).

DETAILED DESCRIPTION - An INDEPENDENT CLAIM includes an automatic centrifuge and conveyor system. The centrifuge sample holding rotor may be surrounded by a refrigerated enclosure.

USE - Automatic laboratory batch centrifuges handling high sample throughput.

ADVANTAGE - Allows automatic loading and removal of samples between a conveyor and an automatic centrifuge.

DESCRIPTION OF DRAWING(S) - figures shows a compound manipulator arm and its application to a centrifuge.

parallel guide elements (5,6)
sliders (7,8)
arms (13,14)
manipulator hand (15; 205)
pusher (16; 216)
goniometric sensor (24)
multiple sample tube holder (202)
conveyor band. (204)
pp; 33 DwgNo 1/22

Title Terms: **ROBOT** ; MANIPULATE; ARM; CONTROL; SYSTEM; LOAD; REMOVE; SAMPLE; BLOOD; AUTOMATIC; LABORATORY; CENTRIFUGE
Derwent Class: J01; P41; T01; X25
International Patent Class (Main): B04B-005/02; B04B-005/04; B04B-013/00; B25J-009/10; G05B-019/18
International Patent Class (Additional): B04B-005/10; B04B-011/00; B04B-011/04; B04B-015/02; B25J-005/02; G01N-035/04
File Segment: CPI; EPI; EngPI
Manual Codes (CPI/A-N): J01-L01
Manual Codes (EPI/S-X): T01-J04A; T01-J07B1; X25-A03E

?t9/ti/15-16
>>>Set 9 does not exist
?t8/ti/15-16

8/TI/15 (Item 7 from file: 350)
DIALOG(R)File 350:(c) 2002 Thomson Derwent. All rts. reserv.

Polishing apparatus for producing flat and mirror polished semiconductor wafers

8/TI/16 (Item 8 from file: 350)
DIALOG(R)File 350:(c) 2002 Thomson Derwent. All rts. reserv.

Polishing apparatus for semiconductor wafer

?

File 348:EUROPEAN PATENTS 1978-2002/Jul W03
(c) 2002 European Patent Office
File 349:PCT FULLTEXT 1983-2002/UB=20020725,UT=20020718
(c) 2002 WIPO/Univentio

Set	Items	Description
S1	6	AU='OSAWA HIROSHI':AU='OSAWA HIROSHI DIPL ING'
S2	1	AU='HIROSHI OZAWA'
S3	6	AU='HOSONUMA NAOYASU':AU='HOSONUMA NAOYASU SONY CORPORATION'
S4	30227	ROBOT?????? OR TOY OR TOYS
S5	482	IC='G05D-001/02'
S6	177	IC='B25J-005/00'
S7	119	IC='B25J-013/08'
S8	5	S3 AND S4:S7

?t8/5/all

8/5/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS
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01228964
ELECTRONIC PET SYSTEM, NETWORK SYSTEM, ROBOT **, AND STORAGE MEDIUM**
ELEKTRONISCHES HAUSTIERSYSTEM, NETZWERKSYSTEM, ROBOTOR **UND SPEICHERMEDIUM**
SYSTEME D'ANIMAL DE COMPAGNIE ELECTRONIQUE, SYSTEME DE RESEAU, ROBOT **ET SUPPORT DE DONNEES**
PATENT ASSIGNEE:
Sony Corporation, (214028), 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP), (Applicant designated States: all)
INVENTOR:
YOKOO, Naohiro, Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP)
KATO, Yasuhiko, Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP)
HATTORI, Masakazu, Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP)
FUJITA, Masahiro, Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP)
HOSONUMA, Naoyasu , Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP
LEGAL REPRESENTATIVE:
Pilch, Adam John Michael (50481), D. YOUNG & CO., 21 New Fetter Lane, London EC4A 1DA, (GB)
PATENT (CC, No, Kind, Date): EP 1092458 A1 010418 (Basic)
WO 0066239 001109
APPLICATION (CC, No, Date): EP 922918 000428; WO 00JP2856 000428
PRIORITY (CC, No, Date): JP 99125191 990430; JP 99129207 990510
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
INTERNATIONAL PATENT CLASS: A63H-011/00; A63F-013/00; G06F-017/00; G06K-017/00
CITED PATENTS (WO A): EP 898237 A2; JP 1120690 A ; JP 8202679 A ; JP 8335091 A ; JP 10333542 A ; JP 10322775 A ; JP 10319831 A ; JP 3079035 B2

ABSTRACT EP 1092458 A1
This invention enables realization of an electronic pet with more reality using various types of devices.
Specifically, a virtual electronic pet 202 and a pet-type **robot** 204 change the state of the emotion and the state of the instinct as the internal state of the electronic pet (information included in pet characteristic information 203) in accordance with surrounding information and internal information, and act in accordance with the state of the emotion and the state of the instinct.
Transmission/reception of the internal state of the electronic pet (pet characteristic information 203) is made possible among the virtual electronic pet 202, the pet-type **robot** 204, and a personal computer 201. Thus, the action of the electronic pet is implemented by each device in accordance with the internal state of the electronic pet changed by

another equipment.
ABSTRACT WORD COUNT: 136
NOTE:
Figure number on first page: 28

LEGAL STATUS (Type, Pub Date, Kind, Text):
Application: 010103 A1 International application. (Art. 158(1))
Application: 010103 A1 International application entering European phase
Application: 010418 A1 Published application with search report
Examination: 010418 A1 Date of request for examination: 20010109
LANGUAGE (Publication,Procedural,Application): English; English; Japanese
FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200116	2151
SPEC A	(English)	200116	25297
Total word count - document A			27448
Total word count - document B			0
Total word count - documents A + B			27448

8/5/2 (Item 2 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS

01191768
ROBOT
ROBOTER
ROBOT
PATENT ASSIGNEE:
Sony Corporation, (214028), 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP), (Applicant designated States: all)
INVENTOR:
INOUE, Makoto, Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP)
HOSONUMA, Naoyasu, Sony Corporation , 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP)
FURUMURA, Kyoko, Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku, Tokyo 141-0001, (JP)
SABE, Kotaro, Sony Corporation, 7-35, Kitashinagawa 6-chome, Shinagawa-ku , Tokyo 141-0001, (JP
LEGAL REPRESENTATIVE:
Horner, David Richard et al (77632), D Young & Co, 21 New Fetter Lane, London EC4A 1DA, (GB)
PATENT (CC, No, Kind, Date): EP 1120205 A1 010801 (Basic)
WO 200043168 000727
APPLICATION (CC, No, Date): EP 2000900911 000125; WO 2000JP342 000125
PRIORITY (CC, No, Date): JP 9915762 990125
DESIGNATED STATES: DE; FR; GB
INTERNATIONAL PATENT CLASS: B25J-013/00; **B25J-005/00**
CITED PATENTS (WO A): XP 2927686 ; XP 2927687
CITED REFERENCES (WO A):
JP 61167997 A
JP 9153082 A
JP 10289006 A
JP 9114514 A
JP 6012401 A
ROBOT ENTERTAINMENT. PROCEEDINGS OF THE 6TH SONY RESEARCH FORUM, 27 November 1996, pages 234 - 239, XP002927686
MASAHIRO FUJITA.: 'Reconfigurable Physical Agents' PROCEEDINGS OF THE SECOND INTERNATIONAL CONFERECNE ON AUTONOMOUS AGENTS, 09 May 1998, pages 54 - 61, XP002927687;

ABSTRACT EP 1120205 A1
A **robot** apparatus of the present invention, which actuates a movable portion based on a predetermined control program to autonomously perform action, comprises fixed storage means fixed at a predetermined position in the **robot** apparatus; removable storage means removably disposed at a

predetermined position of the **robot** ; and control means for storing control data used to operate the control program in the fixed storage means or in the removable storage means in accordance with the type of the control data or for reading control data from the fixed storage means or from the removable storage means in accordance with the type of the control data.

ABSTRACT WORD COUNT: 106

NOTE:
Figure number on first page: 2

LEGAL STATUS (Type, Pub Date, Kind, Text):
Application: 000920 A1 International application. (Art. 158(1))
Application: 000920 A1 International application entering European phase
Application: 010801 A1 Published application with search report
Examination: 010801 A1 Date of request for examination: 20000929

LANGUAGE (Publication,Procedural,Application): English; English; Japanese

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200131	885
SPEC A	(English)	200131	6071
Total word count - document A			6956
Total word count - document B			0
Total word count - documents A + B			6956

8/5/3 (Item 1 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

00896813 **Image available**

ROBOT **CONTROL SYSTEM AND** ROBOT **CONTROL METHOD**

SYSTEME DE COMMANDE DE ROBOT **ET PROCEDE DE COMMANDE DE** ROBOT

Patent Applicant/Assignee:
SONY CORPORATION, 7-35, KITASHINAGAWA 6-CHOME, SHINAGAWA-KU, Tokyo 141-0001, JP, JP (Residence), JP (Nationality), (For all designated states except: US)

Patent Applicant/Inventor:
SAKAMOTO Takayuki, c/o SONY CORPORATION, 7-35, KITASHINAGAWA 6-CHOME, SHINAGAWA-KU, Tokyo 141-0001, JP, JP (Residence), JP (Nationality), (Designated only for: US)
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English Abstract

An articulated **robot** is controlled by dynamically changing the combination of a hardware-dependent middleware layer and a hardware-independent application layer. An interface for semantic motion and a database are provided between the middleware layer dependent on the hardware structure of a **robot** and the application layer independent on the hardware structure. As a result, even if the combination of the middleware introduced in the **robot** and the application, an always-normal motion is secured. The application can acquire appropriate input data through the middleware and issue a proper command.

French Abstract

Un **robot** articule est commande par changement dynamique de la combinaison d'une couche intergicielle dependante d'un materiel et d'une couche d'application independante d'un materiel. Une interface de mouvement semantique et une base de donnees sont prevues entre la couche intergicielle dependante de la structure materielle d'un **robot** et la couche d'application independante de la structure materielle. Ainsi, meme dans le cadre d'une association de l'intergiciel introduit dans le **robot** et de l'application, un mouvement toujours normal est assure. L'application peut acquerir des donnees d'entree appropriees par l'intermediaire de l'intergiciel et emettre une commande correcte.

Legal Status (Type, Date, Text)
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DIALOG(R)File 349:PCT FULLTEXT

00753130 **Image available**
ELECTRONIC PET SYSTEM, NETWORK SYSTEM, ROBOT **, AND STORAGE MEDIUM**
SYSTEME D'ANIMAL DE COMPAGNIE ELECTRONIQUE, SYSTEME DE RESEAU, ROBOT **ET SUPPORT DE DONNEES**

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English Abstract
An electronic pet with more reality is realized by using various devices. Specifically, a virtual electronic pet (202) and a pet **robot** (204) change their emotion and instinctive state which are the internal states (information included in the pet feature information (203)) of the electronic pet according to the information about the surroundings and their inside and behaves according to their emotion and instinctive state. The internal states (pet feature information (203)) of the electronic pet are transmitted and received among the virtual electronic pet (202), the pet **robot** (204), or a personal computer (201). According to the internal states of the electronic pet changed by another apparatus, the behavior of the electronic pet is embodied by various devices.

French Abstract
L'invention concerne un animal de compagnie electronique plus realiste, fabrique au moyen de divers dispositifs. Un animal de compagnie electronique virtuel (202) change ses etats emotionnels et instinctifs correspondant aux etats internes (informations incluse dans les informations caracteristiques relatives a l'animal (203)), en fonction d'informations relatives a l'environnement et son contenu et se comporte en fonction de son etat emotionnel et instinctif. Les etats internes (informations relatives a l'animal (203)) de l'animal de compagnie electronique sont transmis et recus par l'animal de compagnie virtuel (202), l'animal **robot** (204) ou un ordinateur personnel (201). Selon les etats internes de l'animal de compagnie electronique modifies par un autre appareil, le comportement dudit animal concretise par divers dispositifs.

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8/5/5 (Item 3 from file: 349)

00730181 **Image available**
ROBOT
ROBOT
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English Abstract
An autonomous **robot** capable of operating movable parts based on a predetermined control program comprises fixed storage means in a predetermined position of the **robot** , detachable storage means in a predetermined position of the **robot** , and control means for writing control data used to operate the control program into the fixed storage means or the detachable storage means and reading such control data from the fixed storage means or the detachable storage means in accordance with the type of control data.

French Abstract
Cette invention concerne un **robot** autonome qui est capable d'actionner des pieces mobiles en fonction d'un programme de commande predetermine. Ce **robot** comprend un systeme de stockage fixe qui est dispose dans une partie predeterminee dudit **robot** , ainsi qu'un systeme de stockage amovible qui est dispose dans une autre partie predeterminee du **robot** . Ce **robot** comprend egalement un systeme de commande qui va inscrire des donnees de commande, utilisees afin d'actionner le programme de commande, dans le systeme de stockage fixe ou dans le systeme de stockage amovible, et qui va lire ces donnees de commande du systeme de stockage fixe ou du systeme de stockage amovible en fonction du type de donnees de commande.

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